

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	4	((triisopropylsilyloxycarbonyl) near5 ((methylene near2 blue) or phenothiazine or methylthionine or thionine))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 14:43
L2	6	((triisopropylsilyloxycarbonyl or triisopropyl or silyloxycarbonyl) near5 ((methylene near2 blue) or phenothiazine or methylthionine or thionine))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 14:44

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	924343	(polyhydroxystyrene\$1 or hydroxystyrene\$1 or ((polyhydroxy or hydroxy or hydroxyl) or polymeric))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:17
L2	8299	(polyhydroxystyrene\$1 or hydroxystyrene\$1 or ((polyhydroxy or hydroxy or hydroxyl) near2 polymeric))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:21
L3	47	I2 same ((methylene near5 blue) or leuco or colorless or colourless)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:42
L4	210891	(polyhydroxystyrene\$1 or hydroxystyrene\$1 or pva or polyvinylalcohol or vinylalcohol or ((polyvinyl or poly) near2 alcohol) or ((polyhydroxy or hydroxy or hydroxyl) near2 polyme\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:51
L5	2763	I4 same ((methylene near5 blue) or leuco or colorless or colourless)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:52
L6	169	I5 and (methylene near5 blue) with (leuco or colorless or colourless)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:58
L7	64004	(polyhydroxystyrene\$1 or hydroxystyrene\$1 or ((hydroxy or hydroxyethyl) near5 cellulos\$4) or hec or ((polyhydroxy or hydroxy or hydroxyl) near2 polyme\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:42
L8	843	I7 same ((methylene near5 blue) or leuco or colorless or colourless)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:42
L9	77	I8 and (methylene near5 blue) with (leuco or colorless or colourless)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:57

## EAST Search History

L10	39	l9 not l6	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:43
L11	7675	(polyhydroxystyrene\$1 or hydroxystyrene\$1 or (hydroxy near2 styrene))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:56
L12	43	l11 same ((methylene near5 blue) or leuco or colorless or colourless)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:52
L13	98	(polyhydroxystyrene\$1 or hydroxystyrene\$1 or (hydroxy near2 styrene)) near5 (pmma or polymethylmethacrylate or methylmethacrylate or branched)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:57
L14	1	l13 and (methylene near5 blue) with (leuco or colorless or colourless)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:58
L15	8	l13 and ((methylene near5 blue) or leuco or colorless or colourless)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2006/03/31 13:58

\$%^STN;HighlightOn= \*\*\*;HighlightOff=\*\*\* ;

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NEWS 14 FEB 22 Updates in EPFULL; IPC 8 enhancements added  
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NEWS 18 FEB 28 REGISTRY/ZREGISTRY enhanced with more experimental spectral  
property data  
NEWS 19 MAR 01 INSPEC reloaded and enhanced  
NEWS 20 MAR 03 Updates in PATDPA; addition of IPC 8 data without attributes  
NEWS 21 MAR 08 X.25 communication option no longer available after June 2006  
NEWS 22 MAR 22 EMBASE is now updated on a daily basis  
  
NEWS EXPRESS FEBRUARY 15 CURRENT VERSION FOR WINDOWS IS V8.01a,  
CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),  
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=> tra rn 11

L2 TRANSFER L1 1- RN : 34 TERMS  
L3 34 L2

=> s triisopropyl? and l3  
2602 TRIISOPROPYL?

L4 0 TRIISOPROPYL? AND L3

=> s isopropyl? and l3  
106316 ISOPROPYL?

L5 0 ISOPROPYL? AND L3

=> s methylene and l3  
1480084 METHYLENE  
3 METHYLENES  
1480084 METHYLENE  
(METHYLENE OR METHYLENES)

L6 2 METHYLENE AND L3

=> d all 1-2

L6 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2006 ACS on STN

RN \*\*\*7220-79-3\*\*\* REGISTRY

ED Entered STN: 16 Nov 1984

CN Phenothiazin-5-ium, 3,7-bis(dimethylamino)-, chloride, trihydrate (9CI)  
(CA INDEX NAME)

OTHER CA INDEX NAMES:

CN C.I. Basic Blue 9, trihydrate (8CI)

OTHER NAMES:

CN 3,7-Bis(dimethylamino)phenazathionium chloride trihydrate

CN \*\*\*Methylene blue trihydrate\*\*\*

MF C16 H18 N3 S . Cl . 3 H2 O

LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, CSChem, CSNB, IPA,  
MRCK\*, MSDS-OHS, NIOSHTIC, PS, RTECS\*, TOXCENTER, USAN, USPAT2,  
USPATFULL

(\*File contains numerically searchable property data)

DT.CA Caplus document type: Journal; Patent

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study);  
PRP (Properties); RACT (Reactant or reagent); USES (Uses)

RL.NP Roles from non-patents: BIOL (Biological study); PRP (Properties); USES  
(Uses); NORL (No role in record)

CRN (7060-82-4)

#### Ring System Data

Elemental Analysis EA	Elemental Sequence ES	Size of the Rings SZ	Ring System Formula RF	Ring Identifier RID	RID Occurrence Count
C4NS-C6-C6	NC2SC2-C6-C6	6-6-6	C12NS	2508.272.19	1

/ Structure 1 in file .gra /

11 REFERENCES IN FILE CA (1907 TO DATE)

11 REFERENCES IN FILE CAPLUS (1907 TO DATE)

#### REFERENCE 1

AN 142:263184 CA

TI Limited play data storage media, adhesive and coating formulations

IN Wisnudel, Marc Brian; Olson, Daniel Robert; Simon, David Andrew; Longley,  
Kathryn Lynn; Lindholm, Edward Paul

PA USA

SO U.S. Pat. Appl. Publ., 16 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM C08L001-00

NCL 106163010

FAN: CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005051053	A1	20050310	US 2003-657632	20030908
	WO 2005027110	A1	20050324	WO 2004-US23219	20040720
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
PRAI	US 2003-657632		20030908		
AB	In the formulation for a reactive dye layer for a limited-play optical storage medium, the reactive formulation includes .gtoreq.1 carrier material or curable acrylate monomer, .gtoreq.1 reactive material within the carrier material or acrylate monomer, and .gtoreq.1 photo-bleaching retarder material within the .gtoreq.1 adhesive material. The .gtoreq.1 photo-bleaching retarder material includes .gtoreq.1 polymeric polyhydroxy compd. selected from polyhydroxystyrenes, cellulose, and functionalized cellulose derivs.				
ST	photobleach retarder coating adhesive optical recording disk; reactive dye coating adhesive optical recording disk; PMMA carrier coating adhesive optical recording disk				
IT	Polyimides, uses Polyketones Polysulfones, uses RL: TEM (Technical or engineered material use); USES (Uses) (polyether-; polymeric photobleach retarder in adhesive and coating formulations for a reactive dye layer for a limited-play optical storage medium)				
IT	Polyethers, uses RL: TEM (Technical or engineered material use); USES (Uses) (polyimide-; polymeric photobleach retarder in adhesive and coating formulations for a reactive dye layer for a limited-play optical storage medium)				
IT	Polyethers, uses RL: TEM (Technical or engineered material use); USES (Uses) (polyketone-; polymeric photobleach retarder in adhesive and coating formulations for a reactive dye layer for a limited-play optical storage medium)				
IT	Adhesives Coating materials Liquid crystals, polymeric Optical disks (polymeric photobleach retarder in adhesive and coating formulations for a reactive dye layer for a limited-play optical storage medium)				
IT	Fluoropolymers, uses Polyamides, uses Polycarbonates, uses Polyesters, uses Polyimides, uses Polyolefins Polyoxymethylenes, uses Polythiophenylenes RL: TEM (Technical or engineered material use); USES (Uses) (polymeric photobleach retarder in adhesive and coating formulations for a reactive dye layer for a limited-play optical storage medium)				
IT	Polyethers, uses RL: TEM (Technical or engineered material use); USES (Uses) (polysulfone-; polymeric photobleach retarder in adhesive and coating formulations for a reactive dye layer for a limited-play optical storage medium)				
IT	9011-14-7, Poly(methyl methacrylate) RL: TEM (Technical or engineered material use); USES (Uses) (carrier; polymeric photobleach retarder in adhesive and coating				

formulations for a reactive dye layer for a limited-play optical storage medium)

IT 92-31-9, Toluidine blue O 92-88-6, 4,4'-Biphenol 613-11-6 4712-70-3  
 7220-79-3, Methylene blue trihydrate 9002-85-1, Polyvinylidene chloride  
 9002-86-2, Polyvinyl chloride 9003-17-2, Polybutadiene 9003-20-7,  
 Polyvinyl acetate 9003-53-6 9003-56-9, ABS resin 9004-34-6,  
 Cellulose, uses 9004-35-7 9004-36-8, Cellulose acetate butyrate  
 9004-48-2, Cellulose propionate 9004-57-3, Ethyl cellulose 9004-64-2,  
 Hydroxypropyl cellulose 9004-65-3, Hydroxypropyl methyl cellulose  
 9004-67-5, Methyl cellulose 9012-09-3 9041-56-9, Hydroxybutyl methyl  
 cellulose 15625-89-5, SR 351 24937-78-8 24937-79-9, Polyvinylidene  
 fluoride 24979-71-3, 4-Hydroxystyrene;methyl methacrylate copolymer  
 24981-14-4, Polyvinyl fluoride 25014-41-9, Polyacrylonitrile 25038-71-  
 5, Ethylene-tetrafluoroethylene copolymer 25086-15-1, Methyl  
 methacrylate/ methacrylic acid copolymer 48145-04-6, SR 339 55840-82-9  
 , Basic blue 3 59269-51-1, Polyhydroxystyrene 80413-52-1, SR 495  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (polymeric photobleach retarder in adhesive and coating formulations  
 for a reactive dye layer for a limited-play optical storage medium)

## REFERENCE 2

AN 141:308737 CA

TI Using fragment chemistry data mining and probabilistic neural networks in  
 screening chemicals for acute toxicity to the fathead minnow

AU Niculescu, S. P.; Atkinson, A.; Hammond, G.; Lewis, M.

CS Burlington, ON, L7N 2Z9, Can.

SO SAR and QSAR in Environmental Research (2004), 15(4), 293-309  
 CODEN: SQERED; ISSN: 1062-936X

PB Taylor & Francis Ltd.

DT Journal

LA English

CC 4-1 (Toxicology)

AB The paper is illustrating how the general data mining methodol. may be  
 adapted to provide solns. to the problem of high throughput virtual  
 screening of org. chems. for possible acute toxicity to the fathead minnow  
 fish. The present approach involves mining fragment information from  
 chem. structures and is using probabilistic neural networks to model the  
 relationship between structure and toxicity. Probabilistic neural  
 networks implement a special class of multivariate non-linear Bayesian  
 statistical models. The math. principles supporting their use for value  
 prediction purposes are clarified and their peculiarities discussed. As  
 part of the research phase of the data mining process, a dataset  
 consisting of 800 structures and assocd. fathead minnow (Pimephales  
 promelas) 96-h LC50 acute toxicity endpoint information is used for both  
 the purpose of identifying an advantageous combination of fragment  
 descriptors and for training the neural networks. As a result, two  
 powerful models are generated. Model 1 implements the basic PNN with  
 Gaussian kernel (statistical corrections included) while Model 2  
 implements the PNN with Gaussian kernel and sepd. variables. External  
 validation is performed using a sep. dataset consisting of 86 structures  
 and assocd. toxicity information. Both learning and generalization  
 capabilities of the two models are investigated and their limitations  
 discussed.

ST model probabilistic neural network toxicity fathead minnow; structure  
 activity relationship org chem toxicity Pimephales

IT Alcohols, biological studies  
 RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
 (C12-13, ethoxylated; using fragment chem. data mining and  
 probabilistic neural networks in screening chems. for acute toxicity to  
 fathead minnow)

IT Alcohols, biological studies  
 RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
 (C9-11, ethoxylated; using fragment chem. data mining and probabilistic  
 neural networks in screening chems. for acute toxicity to fathead  
 minnow)

IT Simulation and Modeling  
 (neural network; using fragment chem. data mining and probabilistic  
 neural networks in screening chems. for acute toxicity to fathead  
 minnow)

IT Structure-activity relationship  
 (toxic; using fragment chem. data mining and probabilistic neural



networks in screening chems. for acute toxicity to fathead minnow)

IT Pimephales promelas  
 " (using fragment chem. data mining and probabilistic neural networks in  
 screening chems. for acute toxicity to fathead minnow)

IT 50-00-0, Formaldehyde, biological studies 50-06-6, biological studies  
 50-29-3, biological studies 51-28-5, biological studies 51-79-6  
 52-68-6 54-21-7 55-18-5 55-21-0, Benzamide 55-38-9 56-23-5,  
 biological studies 56-35-9 56-37-1 56-38-2 57-06-7 57-14-7  
 57-15-8 57-33-0 57-43-2 57-74-9 58-08-2, biological studies  
 58-27-5 58-89-9 58-90-2 59-50-7 59-97-2 60-00-4, biological  
 studies 60-13-9 60-29-7, biological studies 60-41-3 60-57-1  
 62-53-3, Benzenamine, biological studies 62-55-5, Ethanethioamide  
 62-73-7 62-75-9 63-25-2 64-17-5, Ethanol, biological studies  
 64-19-7, Acetic acid, biological studies 65-30-5 65-45-2 65-85-0,  
 Benzoic acid, biological studies 66-25-1, Hexanal 66-76-2 67-36-7  
 67-56-1, Methanol, biological studies 67-63-0, 2-Propanol, biological  
 studies 67-64-1, 2-Propanone, biological studies 67-66-3, biological  
 studies 67-68-5, biological studies 67-72-1 68-12-2, biological  
 studies 70-30-4 70-69-9 71-23-8, 1-Propanol, biological studies  
 71-36-3, 1-Butanol, biological studies 71-41-0, 1-Pentanol, biological  
 studies 71-43-2, Benzene, biological studies 71-55-6 71-73-8  
 72-20-8 72-43-5 74-90-8, Hydrocyanic acid, biological studies  
 75-05-8, Acetonitrile, biological studies 75-07-0, Acetaldehyde,  
 biological studies 75-09-2, biological studies 75-21-8, Oxirane,  
 biological studies 75-31-0, 2-Propanamine, biological studies 75-35-4,  
 biological studies 75-36-5, Acetyl chloride 75-47-8 75-57-0  
 75-65-0, biological studies 75-89-8 75-97-8 76-01-7 76-03-9,  
 biological studies 76-22-2 76-44-8 76-87-9 77-47-4 77-71-4  
 77-73-6 77-74-7 77-75-8 78-27-3 78-51-3 78-59-1 78-83-1,  
 biological studies 78-87-5 78-90-0, 1,2-Propanediamine 78-92-2,  
 2-Butanol 78-93-3, 2-Butanone, biological studies 78-96-6 78-97-7  
 79-00-5 79-01-6, biological studies 79-06-1, 2-Propenamide, biological  
 studies 79-19-6, Hydrazinecarbothioamide 79-20-9 79-34-5 79-95-8  
 80-05-7, biological studies 80-46-6 80-52-4 80-62-6 81-19-6  
 83-32-9 83-34-1 83-79-4 84-62-8 84-66-2 84-74-2 85-00-7  
 85-47-2, 1-Naphthalenesulfonic acid 85-68-7 86-50-0 86-57-7  
 86-74-8, 9H-Carbazole 87-17-2 87-61-6 87-68-3 87-72-9,  
 L-Arabinopyranose 87-86-5 87-91-2 88-06-2 88-30-2 88-68-6  
 88-72-2 88-73-3 88-75-5 88-85-7 89-61-2 89-62-3 89-83-8  
 90-02-8, biological studies 90-12-0 90-15-3, 1-Naphthalenol 90-43-7,  
 [1,1'-Biphenyl]-2-ol 90-47-1, 9H-Xanthen-9-one 90-59-5 91-20-3,  
 Naphthalene, biological studies 91-22-5, Quinoline, biological studies  
 91-23-6 91-65-6 91-66-7 91-88-3 92-52-4, 1,1'-Biphenyl, biological  
 studies 92-88-6, [1,1'-Biphenyl]-4,4'-diol 93-89-0 93-91-4 94-09-7  
 94-62-2 94-67-7 94-68-8 94-75-7, biological studies 94-81-5  
 95-01-2 95-16-9, Benzothiazole 95-47-6, biological studies 95-48-7,  
 biological studies 95-49-8 95-50-1 95-51-2 95-52-3 95-53-4,  
 biological studies 95-57-8 95-63-6 95-65-8 95-73-8 95-75-0  
 95-76-1 95-80-7 95-82-9 95-94-3 95-95-4 96-05-9 96-13-9  
 96-17-3 96-18-4 96-22-0, 3-Pentanone 96-29-7 96-80-0 97-02-9  
 97-23-4 98-01-1, 2-Furancarboxaldehyde, biological studies 98-04-4  
 98-08-8 98-54-4 98-56-6 98-82-8 98-86-2, biological studies  
 98-88-4, Benzoyl chloride 98-95-3, biological studies 99-03-6  
 99-08-1 99-35-4 99-52-5 99-55-8 99-61-6 99-65-0 99-88-7  
 99-97-8 99-99-0 100-01-6, biological studies 100-02-7, biological  
 studies 100-10-7 100-25-4 100-37-8 100-41-4, biological studies  
 100-42-5, biological studies 100-44-7, biological studies 100-46-9,  
 Benzenemethanamine, biological studies 100-47-0, Benzonitrile,  
 biological studies 100-51-6, Benzenemethanol, biological studies  
 100-52-7, Benzaldehyde, biological studies 100-61-8, biological studies  
 100-64-1 100-70-9, 2-Pyridinecarbonitrile 100-71-0 100-79-8  
 100-97-0, biological studies 101-84-8 102-08-9 102-27-2 102-69-2  
 102-71-6, biological studies 103-05-9 103-76-4, 1-Piperazineethanol  
 103-83-3 103-90-2 104-13-2 104-40-5 104-51-8 104-76-7  
 104-88-1, biological studies 104-90-5 105-14-6 105-53-3  
 RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
 (using fragment chem. data mining and probabilistic neural networks in  
 screening chems. for acute toxicity to fathead minnow)

IT 105-60-2, biological studies 105-67-9 105-75-9 105-99-7 106-40-1  
 106-42-3, biological studies 106-43-4 106-44-5, biological studies  
 106-46-7 106-47-8, biological studies 106-48-9 106-49-0, biological  
 studies 106-51-4, 2,5-Cyclohexadiene-1,4-dione, biological studies

106-63-8 106-89-8, biological studies 106-94-5 107-02-8, 2-Propenal, biological studies 107-05-1 107-06-2, biological studies 107-07-3, biological studies 107-10-8, 1-Propanamine, biological studies 107-12-0, Propanenitrile 107-13-1, 2-Propenenitrile, biological studies 107-14-2 107-15-3, 1,2-Ethanediamine, biological studies 107-18-6, 2-Propen-1-ol, biological studies 107-19-7, 2-Propyn-1-ol 107-21-1, 1,2-Ethanediol, biological studies 107-22-2, Ethanedial 107-29-9 107-41-5 107-45-9 107-47-1 107-49-3 107-64-2 107-87-9, 2-Pentanone 108-05-4, Acetic acid ethenyl ester, biological studies 108-10-1 108-20-3 108-38-3, biological studies 108-39-4, biological studies 108-41-8 108-46-3, 1,3-Benzenediol, biological studies 108-59-8 108-70-3 108-86-1, biological studies 108-88-3, biological studies 108-89-4 108-90-7, biological studies 108-93-0, Cyclohexanol, biological studies 108-94-1, Cyclohexanone, biological studies 108-95-2, Phenol, biological studies 108-99-6 109-01-3 109-06-8 109-07-9 109-21-7 109-60-4 109-64-8 109-65-9 109-73-9, 1-Butanamine, biological studies 109-75-1, 3-Butenenitrile 109-76-2, 1,3-Propanediamine 109-77-3, Propanedinitrile 109-85-3 109-86-4 109-87-5 109-89-7, biological studies 109-97-7, 1H-Pyrrole 109-99-9, biological studies 110-00-9, Furan 110-06-5 110-12-3 110-40-7 110-43-0, 2-Heptanone 110-54-3, Hexane, biological studies 110-56-5 110-58-7, 1-Pentanamine 110-62-3, Pentanal 110-65-6, 2-Butyne-1,4-diol 110-73-6 110-80-5 110-82-7, Cyclohexane, biological studies 110-86-1, Pyridine, biological studies 110-88-3, 1,3,5-Trioxane, biological studies 110-93-0 111-13-7, 2-Octanone 111-15-9 111-25-1 111-26-2, 1-Hexanamine 111-27-3, 1-Hexanol, biological studies 111-42-2, biological studies 111-46-6, biological studies 111-47-7 111-68-2, 1-Heptanamine 111-69-3, Hexanedinitrile 111-70-6, 1-Heptanol 111-76-2 111-83-1 111-86-4, 1-Octanamine 111-87-5, 1-Octanol, biological studies 111-90-0 111-91-1 111-96-6 112-00-5 112-05-0, Nonanoic acid 112-12-9, 2-Undecanone 112-18-5 112-20-9, 1-Nonanamine 112-24-3 112-27-6 112-30-1, 1-Decanol 112-34-5 112-42-5, 1-Undecanol 112-53-8, 1-Dodecanol 112-70-9, 1-Tridecanol 112-80-1, 9-Octadecenoic acid (9Z)-, biological studies 114-26-1 115-19-5 115-20-8 115-29-7 115-32-2 115-86-6 116-06-3 117-80-6 118-55-8 118-61-6 118-74-1 118-79-6 118-96-7 119-32-4 119-34-6 119-61-9, biological studies 120-07-0 120-21-8 120-62-7 120-80-9, 1,2-Benzenediol, biological studies 120-82-1 120-83-2 120-92-3, Cyclopentanone 121-14-2 121-32-4 121-33-5 121-48-2 121-54-0 121-57-3 121-69-7, biological studies 121-73-3 121-75-5 121-82-4 121-87-9 122-03-2 122-14-5 122-39-4, biological studies 122-99-6 123-07-9 123-15-9 123-31-9, 1,4-Benzenediol, biological studies 123-42-2 123-54-6, 2,4-Pentanedione, biological studies 123-66-0 123-72-8, Butanal 123-86-4 123-91-1, 1,4-Dioxane, biological studies 124-04-9, Hexanedioic acid, biological studies 124-22-1, 1-Dodecanamine 124-25-4, Tetradecanal 125-12-2 126-73-8, Phosphoric acid tributyl ester, biological studies 126-81-8 126-99-8 127-00-4 127-06-0 127-18-4, biological studies 127-20-8 127-65-1 127-66-2 128-37-0, biological studies 128-44-9 129-67-9 131-11-3 131-52-2 132-64-9, Dibenzofuran 133-06-2 133-07-3 133-11-9 134-62-3 135-19-3, 2-Naphthalenol, biological studies 137-30-4 137-40-6 140-31-8, 1-Piperazineethanamine 140-88-5 141-03-7 141-28-6 141-43-5, biological studies 141-78-6, Acetic acid ethyl ester, biological studies 141-91-3 141-93-5 141-97-9 142-28-9 142-62-1, Hexanoic acid, biological studies 142-71-2 142-92-7 142-96-1 143-08-8, 1-Nonanol 143-16-8 143-33-9, Sodium cyanide (Na(CN)) 143-50-0 148-18-5 148-53-8 150-19-6 150-76-5 150-78-7 151-21-3, biological studies 152-16-9 253-52-1, Phthalazine 260-94-6, Acridine 271-89-6, Benzofuran 275-51-4, Azulene 280-57-9, 1,4-Diazabicyclo[2.2.2]octane 281-23-2, Tricyclo[3.3.1.1<sup>3,7</sup>]decane 298-00-0 298-02-2 298-03-3 298-04-4 299-84-3 300-76-5 309-00-2 309-43-3 311-45-5 314-40-9 315-18-4 327-98-0 329-71-5 330-54-1 330-93-8 333-41-5 350-46-9  
 RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
 (using fragment chem. data mining and probabilistic neural networks in screening chems. for acute toxicity to fathead minnow)

IT

368-77-4 371-40-4 383-63-1 385-00-2 387-45-1 393-39-5 446-52-6  
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4-Pentyn-2-ol 2138-22-9 2150-47-2 2176-62-7 2211-99-6 2216-51-5  
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3,6,9,12,15,18-Hexaoxatriacontan-1-ol 3055-99-0 3056-00-6 3066-71-5  
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RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
(using fragment chem. data mining and probabilistic neural networks in  
screening chems. for acute toxicity to fathead minnow)  
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-3, C.I. Basic Violet 1 8005-78-5, C.I. Basic Brown 4 8065-48-3  
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 768378-00-3 768378-01-4

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study)  
 (using fragment chem. data mining and probabilistic neural networks in  
 screening chems. for acute toxicity to fathead minnow)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

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# REFERENCE 3

AN 140:124585 CA  
 TI Assessment of photodynamic destruction of Escherichia coli o157:H7 and  
 Listeria monocytogenes by using ATP bioluminescence  
 AU Romanova, N. A.; Brovko, L. Y.; Moore, L.; Pometun, E.; Savitsky, A. P.;  
 Ugarova, N. N.; Griffiths, M. W.  
 CS Canadian Research Institute for Food Safety, University of Guelph, Guelph,  
 ON, Can.  
 SO Applied and Environmental Microbiology (2003), 69(11), 6393-6398  
 CODEN: AEMIDF; ISSN: 0099-2240  
 PB American Society for Microbiology  
 DT Journal  
 LA English  
 CC 8-9 (Radiation Biochemistry)  
 AB Antimicrobial photodynamic therapy was shown to be effective against a  
 wide range of bacterial cells, as well as for fungi, yeasts, and viruses.  
 It was shown previously that photodestruction of yeast cells treated with  
 photosensitizers resulted in cell destruction and leakage of ATP. Three  
 photosensitizers were used in this study: tetra(N-methyl-4-  
 pyridyl)porphine tetratosylate salt (TMPyP), toluidine blue O (TBO), and  
 methylene blue trihydrate (MB). A microdilution method was used to det.  
 MICs of the photosensitizers against both Escherichia coli O157:H7 and  
 Listeria monocytogenes. To evaluate the effects of photodestruction on E.  
 coli and L. monocytogenes cells, a bioluminescence method for detection of  
 ATP leakage and a colony-forming assay were used. All tested  
 photosensitizers were effective for photodynamic destruction of both  
 bacteria. The effectiveness of photosensitizers (in microgram-per-  
 milliliter equiv.) decreased in the order TBO > MB > TMPyP for both  
 organisms. The MICs were two- to fourfold higher for E. coli O157:H7 than  
 for L. monocytogenes. The primary effects of all of the photosensitizers  
 tested on live bacterial cells were a decrease in intracellular ATP and an  
 increase in extracellular ATP, accompanied by elimination of viable cells  
 from the sample. The time courses of photodestruction and intracellular  
 ATP leakage were different for E. coli and L. monocytogenes. These  
 results show that bioluminescent ATP-metry can be used for investigation  
 of the first stages of bacterial photodestruction.  
 ST ATP bioluminescence detection photodynamic destruction Escherichia coli  
 Listeria monocytogenes  
 IT Biomarkers  
 (ATP, leakage, as cell death indicator; photodynamic destruction of  
 Escherichia coli and Listeria monocytogenes: ATP bioluminescence  
 detection of first stages of bacterial photodestruction)  
 IT Cell death  
 (photodestruction; photodynamic destruction of Escherichia coli and  
 Listeria monocytogenes: ATP bioluminescence detection of first stages  
 of bacterial photodestruction)  
 IT Antimicrobial agents

Escherichia coli  
 Listeria monocytogenes  
 Luminescence, bioluminescence  
 Photodynamic therapy  
 Photosensitizers, pharmaceutical  
 (photodynamic destruction of Escherichia coli and Listeria  
 monocytogenes: ATP bioluminescence detection of first stages of  
 bacterial photodestruction)

IT 56-65-5, Atp, biological studies  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (leakage, as indicator of cell death; photodynamic destruction of  
 Escherichia coli and Listeria monocytogenes: ATP bioluminescence  
 detection of first stages of bacterial photodestruction)

IT 92-31-9, Toluidine blue O 7220-79-3, Methylene blue trihydrate 36951-7  
 2-1  
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL  
 (Biological study); USES (Uses)  
 (photodynamic destruction of Escherichia coli and Listeria  
 monocytogenes: ATP bioluminescence detection of first stages of  
 bacterial photodestruction)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

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 Bioluminescence and Chemiluminescence 2000, P305
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#### REFERENCE 4

AN 139:343517 CA  
 TI Coating formulations for limited play data storage media  
 IN Ezbiensky, Karin Ann; Olson, Daniel Robert; Wisnudel, Marc Brian;  
 Lindholm, Edward P.  
 PA General Electric Company, USA; Flexplay Technologies, Inc.  
 SO PCT Int. Appl., 46 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 IC ICM C09D005-00  
 ICS C09D201-00; G11B007-24  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 38, 42

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003089528	A2	20031030	WO 2003-US12419	20030422
	WO 2003089528	A3	20040226		
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	US 2004014859	A1	20040122	US 2003-417991	20030417

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AU 2003228640      A1  20031103      AU 2003-228640      20030422
EP 1500097         A2  20050126      EP 2003-726401      20030422
      R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
      ,    IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
JP 2005523367      T2  20050804      JP 2003-586243      20030422
PRAI US 2002-374353P 20020422
      US 2003-417991  20030417
      WO 2003-US12419 20030422
AB  A coating formulation for limited play storage media is provided which
      comprises at least one polyhydroxy compd.; at least one carrier; and at
      least one reactive material.
ST  coating formulation limited play optical data storage media
IT  Coating materials
      Optical recording
      (coating formulations for limited play data storage media)
IT  Epoxy resins, uses
      Polyesters, uses
      Polyurethanes, uses
      RL: TEM (Technical or engineered material use); USES (Uses)
      (coating formulations for limited play data storage media contg.)
IT  Plastics, uses
      RL: TEM (Technical or engineered material use); USES (Uses)
      (thermoplastics; coating formulations for limited play data storage
      media contg.)
IT  4712-70-3
      RL: TEM (Technical or engineered material use); USES (Uses)
      (Brilliant Cresyl Blue; coating formulations for limited play data
      storage media contg.)
IT  92-31-9, Toluidine Blue O  92-88-6, 4,4'-Biphenol  128-37-0,
      Di-tert-butyl-4-methyl phenol, uses  613-11-6, Leuco methylene blue
      2417-04-1  7220-79-3, Methylene blue trihydrate  9011-14-7, Elvacite
      2008  10344-93-1, Acrylate, uses  55840-82-9, Basic blue 3
      RL: TEM (Technical or engineered material use); USES (Uses)
      (coating formulations for limited play data storage media contg.)

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AN 137:255449 CA  
TI Limited play data storage media and method for limiting access to optical  
disks data  
IN Breitung, Eric M.; Van Hamersveld, Eelco M. S.; Olson, Daniel Robert;  
Wisnudel, Marc Brian  
PA General Electric Company, USA  
SO PCT Int. Appl., 37 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
IC ICM G11B007-24  
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2002075733	A1	20020926	WO 2002-US05050	20020206
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2003002431	A1	20030102	US 2001-681288	20010314
	US 6733950	B2	20040511		
	EP 1371059	A1	20031217	EP 2002-753595	20020206
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	CN 1496563	A	20040512	CN 2002-806642	20020206
	JP 2004528667	T2	20040916	JP 2002-574661	20020206
	TW 586111	B	20040501	TW 2002-91103850	20020301
	US 2004152014	A1	20040805	US 2004-762712	20040121

US 6991889 B2 20060131  
US 2005129953 A1 20050616 US 2004-986611 20041112  
PRAI US 2001-681288 20010314  
WO 2002-US5050 20020206  
US 2004-762712 20040121

AB The present disclosure relates to a limited play optical storage media and a method for limiting access to data. This storage media comprises: an optically transparent substrate, reflective layer, data storage layer disposed between the substrate and the reflective layer; oxygen penetrable UV coating disposed on a side of the substrate opposite said data storage layer, and reactive layer disposed between said UV coating and said substrate, the reactive layer having an initial percent reflectivity of about 50% or greater and a subsequent percent reflectivity of about 45% or less. The invention provides a reliable method for limiting access to data on optical disks.

ST DVD protection coating intellectual property data limited access

IT Polyoxyalkylenes, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(di-Me polysiloxane-, BYK 301; limited play data storage media and method for limiting access to optical disks data)

IT Polysiloxanes, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(di-Me, polyoxyalkylene-, BYK 301; limited play data storage media and method for limiting access to optical disks data)

IT Optical disks

(limited play data storage media and method for limiting access to optical disks data)

IT Polycarbonates, uses

RL: TEM (Technical or engineered material use); USES (Uses)  
(limited play data storage media and method for limiting access to optical disks data)

IT 9011-14-7, Elvacite 2010

RL: TEM (Technical or engineered material use); USES (Uses)  
(Elvacite 2008; limited play data storage media and method for limiting access to optical disks data)

IT 301-10-0, Stannous octanoate 1320-67-8, Dowanol PM 3144-16-9, Camphor sulfonic acid 7220-79-3, Methylene blue trihydrate 404889-20-9, Daicure SD 640

RL: TEM (Technical or engineered material use); USES (Uses)  
(limited play data storage media and method for limiting access to optical disks data)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

- (1) Anon; www.matweb.com 2002
- (2) Ciba Geigy Ag; EP 0455585 A 1991 CAPLUS
- (3) Lackritz, H; US 5815484 A 1998
- (4) Quixote Corp; WO 9811539 A 1998

#### REFERENCE 6

AN 131:35909 CA  
TI Photopolymerizable dental compositions containing photofading dyes  
IN Fuchigami, Satoru; Kazama, Hideki; Iijima, Kuniyoshi  
PA Tokuyama K. K., Japan  
SO Jpn. Kokai Tokkyo Koho, 9 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM A61K006-08  
CC 63-7 (Pharmaceuticals)  
Section cross-reference(s): 38

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 11139920	A2	19990525	JP 1997-304117	19971106
PRAI	JP 1997-304117		19971106		

AB The compns., useful as bonding materials in dental restoration, contain radically-polymerizable monomers, .alpha.-diketones photopolymn. catalysts, and dyes which fade upon light irradsn. The compns. remain no colored line at the margin and fading of color indicates the termination of curing. A compn. contg. 11-methacryloyloxyundecane-1,1-dicarboxylic acid, 2,2-bis[4-(3-methacryloyloxy-2-hydroxypropoxy)phenyl]propane, triethylene glycol dimethacrylate, 2-hydroxyethyl methacrylate,

camphorquinone, p-Me2NC6H4CO2Et, and methylene blue trihydrate was applied to a bovine tooth sample, and partly irradiated with visible light. Color of the irradiated area was clearly distinguished from the nonirradiated area. Bonding strength of the compn. for a primer-coated tooth sample and a composite resin was also sufficient.

ST photopolymerizable dental polymer compn photofading dye; methylene blue photofading photopolymerizable dental compn; bonding agent dental photocurable photofading dye

IT Ketones, uses  
RL: CAT (Catalyst use); USES (Uses)  
(1,2-diketones, photopolymn. catalysts; photopolymerizable dental compns. contg. photofading dyes to indicate termination of curing)

IT Dental materials and appliances  
(bonding agents; photopolymerizable dental compns. contg. photofading dyes to indicate termination of curing)

IT Fading  
(photochem.; photopolymerizable dental compns. contg. photofading dyes to indicate termination of curing)

IT Dyes  
(photopolymerizable dental compns. contg. photofading dyes to indicate termination of curing)

IT Polymerization catalysts  
(photopolymn., radical; photopolymerizable dental compns. contg. photofading dyes to indicate termination of curing)

IT Dental materials and appliances  
(resins; photopolymerizable dental compns. contg. photofading dyes to indicate termination of curing)

IT 10373-78-1, Camphorquinone  
RL: CAT (Catalyst use); USES (Uses)  
(photopolymerizable dental compns. contg. photofading dyes to indicate termination of curing)

IT 106209-59-0P 108362-86-3P  
RL: PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(photopolymerizable dental compns. contg. photofading dyes to indicate termination of curing)

IT 553-24-2, Neutral red 7220-79-3, Methylene blue trihydrate 11121-48-5, Rose bengal 16423-68-0, Erythrosin  
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(photopolymerizable dental compns. contg. photofading dyes to indicate termination of curing)

#### REFERENCE 7

AN 123:12052 CA  
TI Water soluble water washable crayon composition  
IN Lytton, Richard N.  
PA La-Co Industries, Inc., USA  
SO U.S., 7 pp.  
CODEN: USXXAM  
DT Patent  
LA English  
IC ICM C09D013-00  
NCL 106-19B  
CC 42-12 (Coatings, Inks, and Related Products)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5380357	A	19950110	US 1993-101919	19930804
	WO 9504785	A1	19950216	WO 1994-US8611	19940801
	W:		AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, UZ, VN		
	RW:		BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG		
	AU 9473754	A1	19950228	AU 1994-73754	19940801
	FR 2708618	A1	19950210	FR 1994-9722	19940804
PRAI	US 1993-101919		19930804		
	WO 1994-US8611		19940801		
AB	The title crayon compn. comprises .gtoreq.1 ethoxylated alc.; optionally, .gtoreq.1 water sol. material selected from the group consisting of an ethoxylated sorbitan fatty acid ester, ester derivs. thereof, phenols and				



polymeric derivs.; >1 pigment or dye; and, optionally, .gtoreq.1 filler. The improved crayon compn. does not contain polyethylene glycols and, thus, exhibits little or no ghosting or residue left on a surface when washed with water ; as well as non-toxicity, suitable hardness and durability, excellent adhesion and drawability, little or no stickiness after hardening and mold release, a higher softening temp. than a typical wax crayon, and low viscosity in a liq. state at elevated temps. for ease in shaping with molds.

ST ethoxylated alc water sol crayon; sorbitan ester ethoxylate water sol crayon; pigmented water sol washable crayon

IT Alcohols, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(C30-50, ethoxylated, water sol. water washable crayon compn. contg.)

IT Coloring materials  
(crayons, water-sol. water washable; crayon compn. contg. ethoxylated alc., pigment, water sol. compd., and filler)

IT 25322-68-3  
RL: TEM (Technical or engineered material use); USES (Uses)  
(mixt. with other water sol. compd.; water sol. water washable crayon compn. contg.)

IT 471-34-1, Calcium carbonate, uses 1338-41-6 1343-88-0, Magnesium silicate 5281-04-9, D And C Red No. 7 7220-79-3 9002-88-4 9003-11-6 9005-65-6 13463-67-7, Titanium dioxide, uses 15876-58-1, D And C Red 28 aluminum lake  
RL: TEM (Technical or engineered material use); USES (Uses)  
(water sol. water washable crayon compn. contg.)

# REFERENCE 8

AN 121:98754 CA  
TI Oxygen-detecting compositions  
IN Ogishima, Hiroaki  
PA Freunt Ind Co Ltd, Japan  
SO Jpn. Kokai Tokkyo Koho, 6 pp.  
CODEN: JKXXAF

DT Patent  
LA Japanese  
IC ICM G01N031-22  
ICS A23L003-358; G01N021-78; G01N031-00  
CC 79-5 (Inorganic Analytical Chemistry)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05312799	A2	19931122	JP 1991-247491	19910926
PRAI	JP 1991-247491		19910926		
AB	The compn. contains a hydrotalcite, redox dye, and reducing sugar. The oxygen-detection limit, waterproofing, and color change of oxygen-detecting compns. are improved.				
ST	oxygen detection compn; hydrotalcite oxygen detection compn; redox dye oxygen detection compn; reducing sugar oxygen detection compn				
IT	Dyes (redox, oxygen-detecting compns. contg.)				
IT	Carbohydrates and Sugars, analysis RL: ANST (Analytical study) (reducing, oxygen-detecting compns. contg.)				
IT	7782-44-7, Oxygen, analysis RL: ANT (Analyte); ANST (Analytical study) (detection of, compn. contg. hydrotalcite and redox dye and reducing sugar for)				
IT	64-17-5, Ethanol, analysis 64-19-7, Acetic acid, analysis 124-38-9, Carbon dioxide, analysis RL: ANST (Analytical study) (oxygen detection in presence of, oxygen-detecting compns. for)				
IT	7220-79-3, Methylene blue trihydrate 12304-65-3, Hydrotalcite (Mg6(CO3)[Al(OH)6]2(OH)4.4H2O) 156579-28-1 RL: ANST (Analytical study) (oxygen-detecting compns. contg.)				

# REFERENCE 9

AN 110:31468 CA  
TI Photothermographic emulsions having stable color-forming developers

IN Mader, Roger A.; Weigel, David C.; Leichter, Louis M.; Hoff, Kristen A.  
 PA Minnesota Mining and Manufacturing Co., USA  
 SO Eur. Pat. Appl., 8 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 IC ICM G03C001-02  
 CC 74-7 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)  
 Section cross-reference(s): 28

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 273587	A2	19880706	EP 1987-310448	19871126
	EP 273587	A3	19890531		
	R: BE, CH, DE, FR, GB, IT, LI, NL				
	US 4782010	A	19881101	US 1986-946969	19861229
	CA 1325914	A1	19940111	CA 1987-550064	19871023
	AU 8780585	A1	19880630	AU 1987-80585	19871102
	AU 600986	B2	19900830		
	JP 63187233	A2	19880802	JP 1987-328182	19871224
PRAI	US 1986-946969		19861229		
GI					

/ Structure 2 in file .gra /

AB A photothermog. dry Ag emulsion contains a developer of the formula I [R = OH, or when R3 = OH R may be H or combine with R1 or R2 form a fused benzene ring; R1, R2 = H, a substituent having a diam. at least as big as that of Br and equal or less than that 1,1,3,3,5,5-hexamethylhexyl or less than tertiary octyl, R1 and R2 may form a fused ring with R, or R2 may fuse with R3 to form a benzene ring; R3 = H, OH; R4 = H, alkyl, aryl, aralkyl, alkenyl; R5-R8 = H, alkyl, aryl; one of R5, R6 and one of R7 and R8 may be II; X = CO, SO2, carboxyl, amido, phosphonyl; Q = S, N, O, C; n = 0 for Q = S, 0; n = 1 for Q = N and n = 2 for Q = C]. The imaging system has improved storage stability.

ST photothermog developer phenazine phenoxazine phenothiazine

IT Photothermographic copying

(color, color-forming developer from phenazine or phenoxazine or phenothiazine for)

IT 79232-41-0P 114766-08-4P 118124-94-0P 118124-95-1P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. and use of, as developer in photothermog. imaging system, for improved storage stability)

IT 1734-00-5, 3-Hydroxy-2-naphthoyl chloride 7220-79-3, Methylene blue trihydrate 7775-14-6, Sodium dithionite 37060-36-9 40056-43-7 118124-96-2 118124-97-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, photothermog. imaging system contg. developer from)

# REFERENCE 10

AN 104:177429 CA

TI Spectrofluorophotometric quantum counter dye for red to near infrared range measurement

AU Ohtsuka, Masao; Itoh, Masakuni; Oikawa, Mitsuru; Oguchi, Masanobu

CS Fac. Imaging Tech., Tokyo Inst. Polytech., Atsugi, 243-02, Japan

SO Tokyo Kogei Daigaku Kogakubu Kiyo (1984), 7(1), 31-40

CODEN: TOKIDC; ISSN: 0387-6055

DT Journal

LA Japanese

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

Section cross-reference(s): 41

AB Three thiocarbocyanines, 2 oxacarbocyanines, 3 methylene blues, and 3 phthalocyanines were studied for selection of a quantum counter dye which is suitable to use at 600-.apprx.700 nm. Methylene blue trihydrate (10-3 M in glycol) was selected from the view-point of fluorescent

characteristics and stability. Relations between fluorescent spectra of 3,3'-diethyl-(6,7,6',7'-dibenzo)thiadibromocyanine bromide (10-6 M in EtOH), and exciting intensities (Xe-lamp current 20-25 A) of the spectrofluorophotometer using methylene blue as the quantum counter are presented as an example.

ST spectrofluorophotometer quantum counter dye

IT Dyes  
Dyes, cyanine  
(for spectrofluorophotometer quantum counter)

IT Optical detectors  
(quantum counters, evaluation of dyes for)

IT Photometers  
(spectrofluoro-, dye evaluation as quantum counter for)

IT Fluorometers  
(spectrofluorophotometer, evaluation of dyes as quantum counter for)

IT 7220-79-3 51532-39-9  
RL: PRP (Properties)  
(fluorescent properties of, for use as spectrofluorophotometer quantum counter)

L6 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2006 ACS on STN

RN \*\*\*613-11-6\*\*\* REGISTRY

ED Entered STN: 16 Nov 1984

CN 10H-Phenothiazine-3,7-diamine, N,N,N',N'-tetramethyl- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN \*\*\*Leucomethylene blue (6CI)\*\*\*

CN Phenothiazine, 3,7-bis(dimethylamino)- (7CI, 8CI)

OTHER NAMES:

CN 3,7-Bis(dimethylamino)phenothiazine

CN \*\*\*Leukomethylene blue\*\*\*

CN \*\*\*Methylene blue leuco base\*\*\*

CN \*\*\*Methylene blue leuco form\*\*\*

CN \*\*\*Methylene blue, leuco\*\*\*

CN \*\*\*Reduced methylene blue\*\*\*

FS 3D CONCORD

MF C16 H19 N3 S

CI COM

LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN\*, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CHEMLIST, EMBASE, GMELIN\*, IFICDB, IFIPAT, IFIUDB, MEDLINE, TOXCENTER, USPAT2, USPATFULL

(\*File contains numerically searchable property data)

DT.CA Caplus document type: Conference; Journal; Patent; Report

RL.P Roles from patents: ANST (Analytical study); BIOL (Biological study); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.P Roles for non-specific derivatives from patents: ANST (Analytical study); BIOL (Biological study); USES (Uses)

RL.NP Roles from non-patents: ANST (Analytical study); BIOL (Biological study); FORM (Formation, nonpreparative); OCCU (Occurrence); PREP (Preparation); PROC (Process); PRP (Properties); RACT (Reactant or reagent); USES (Uses); NORL (No role in record)

RLD.NP Roles for non-specific derivatives from non-patents: BIOL (Biological study); PRP (Properties); USES (Uses)

Ring System Data

Elemental Analysis	Elemental Sequence	Size of the Rings	Ring System Formula	Ring Identifier	RID Occurrence
EA	ES	SZ	RF	RID	Count
C4NS-C6-C6	NC2SC2-C6-C6	6-6-6	C12NS	2508.272.18	1

/ Structure 3 in file .gra /

## Experimental Property Tags (ETAG)

PROPERTY | NOTE  
 =====+=====

Proton NMR Spectra| (1) CAS

(1) Bhaduri, Sumit; Organometallics 2004 V23(15) P3733-3740 CAPLUS

## Predicted Properties (PPROP)

PROPERTY (CODE)	VALUE	CONDITION	NOTE
Bioconc. Factor (BCF)	1.0	pH 1 25 deg C	(1)
Bioconc. Factor (BCF)	1.0	pH 2 25 deg C	(1)
Bioconc. Factor (BCF)	1.0	pH 3 25 deg C	(1)
Bioconc. Factor (BCF)	1.0	pH 4 25 deg C	(1)
Bioconc. Factor (BCF)	14.90	pH 5 25 deg C	(1)
Bioconc. Factor (BCF)	219.60	pH 6 25 deg C	(1)
Bioconc. Factor (BCF)	866.24	pH 7 25 deg C	(1)
Bioconc. Factor (BCF)	1179.54	pH 8 25 deg C	(1)
Bioconc. Factor (BCF)	1223.29	pH 9 25 deg C	(1)
Bioconc. Factor (BCF)	1227.84	pH 10 25 deg C	(1)
Boiling Point (BP)	491.7+/-45.0 deg C	760 Torr	(1)
Density (DEN)	1.201+/-0.06 g/cm**3	760 Torr	(1)
Enthalpy of Vap. (HVAP)	75.85+/-3.0 kJ/mol	760 Torr	(1)
Flash Point (FP)	251.2+/-28.7 deg C		(1)
Freely Rotatable Bonds (FRB)	2		(1)
H acceptors (HAC)	3		(1)
H donors (HD)	1		(1)
Hydrogen Donors/Acceptors Sum (HDAS)	4		(1)
Koc (KOC)	1.79	pH 1 25 deg C	(1)
Koc (KOC)	1.80	pH 2 25 deg C	(1)
Koc (KOC)	1.93	pH 3 25 deg C	(1)
Koc (KOC)	3.98	pH 4 25 deg C	(1)
Koc (KOC)	68.64	pH 5 25 deg C	(1)
Koc (KOC)	1011.51	pH 6 25 deg C	(1)
Koc (KOC)	3990.00	pH 7 25 deg C	(1)
Koc (KOC)	5433.10	pH 8 25 deg C	(1)
Koc (KOC)	5634.65	pH 9 25 deg C	(1)
Koc (KOC)	5655.60	pH 10 25 deg C	(1)
logD (LOGD)	0.87	pH 1 25 deg C	(1)
logD (LOGD)	0.87	pH 2 25 deg C	(1)
logD (LOGD)	0.90	pH 3 25 deg C	(1)
logD (LOGD)	1.22	pH 4 25 deg C	(1)
logD (LOGD)	2.45	pH 5 25 deg C	(1)
logD (LOGD)	3.62	pH 6 25 deg C	(1)
logD (LOGD)	4.22	pH 7 25 deg C	(1)
logD (LOGD)	4.35	pH 8 25 deg C	(1)
logD (LOGD)	4.37	pH 9 25 deg C	(1)
logD (LOGD)	4.37	pH 10 25 deg C	(1)
logP (LOGP)	4.368+/-1.039	25 deg C	(1)
Mass Intrinsic Solubility (ISLB.MASS)	0.0037 g/L	25 deg C	(1)
Mass Solubility (SLB.MASS)	11 g/L	pH 1 25 deg C	(1)
Mass Solubility (SLB.MASS)	11 g/L	pH 2 25 deg C	(1)
Mass Solubility (SLB.MASS)	11 g/L	pH 3 25 deg C	(1)
Mass Solubility (SLB.MASS)	5.1 g/L	pH 4 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.31 g/L	pH 5 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.021 g/L	pH 6 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.0051 g/L	pH 7 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.0037 g/L	pH 8 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.0037 g/L	pH 9 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.0037 g/L	pH 10 25 deg C	(1)
Mass Solubility (SLB.MASS)	0.0040 g/L	Unbuffered Water	(1)
		pH 7.87	
		25 deg C	
Molar Intrinsic Solubility (ISLB.MOL)	0.000013 mol/L	25 deg C	(1)
Molar Solubility (SLB.MOL)	0.040 mol/L	pH 1 25 deg C	(1)

Molar Solubility (SLB.MOL)	0.040 mol/L	pH 2 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.038 mol/L	pH 3 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.018 mol/L	pH 4 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.0011 mol/L	pH 5 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.000072 mol/L	pH 6 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.000018 mol/L	pH 7 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.000013 mol/L	pH 8 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.000013 mol/L	pH 9 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.000013 mol/L	pH 10 25 deg C	(1)
Molar Solubility (SLB.MOL)	0.000014 mol/L	Unbuffered Water	(1)
		pH 7.87	
		25 deg C	
Molar Volume (MVOL)	237.5+/-3.0 cm**3/mol	20 deg C	(1)
		760 Torr	
Molecular Weight (MW)	285.41		(1)
pKa (PKA)	6.62+/-0.20	Most Basic	(1)
		25 deg C	
Polar Surface Area (PSA)	43.81 A**2		(1)
Vapor Pressure (VP)	8.16E-10 Torr	25 deg C	(1)

(1) Calculated using Advanced Chemistry Development (ACD/Labs) Software V8.14  
((C) 1994-2006 ACD/Labs)

See HELP PROPERTIES for information about property data sources in REGISTRY.

245 REFERENCES IN FILE CA (1907 TO DATE)

6 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

245 REFERENCES IN FILE CAPLUS (1907 TO DATE)

40 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

#### REFERENCE 1

AN 144:241801 CA  
TI Influence of cationic surfactants on the voltammetric behavior of methylene blue at a silver electrode  
AU Zhao, Jia; Zhao, Faqiong; Chen, Zhiyao; Zeng, Baizhao  
CS Department of Chemistry, Wuhan University, Wuhan, 430072, Peop. Rep. China  
SO Electroanalysis (2005), 17(12), 1071-1077  
CODEN: ELANEU; ISSN: 1040-0397  
PB Wiley-VCH Verlag GmbH & Co. KGaA  
DT Journal  
LA English  
CC 72-2 (Electrochemistry)  
Section cross-reference(s): 22, 41, 66  
AB The voltammetric behavior of methylene blue (MB, or MB+ in soln.) at a Ag electrode was studied. MB+ can exhibit a cathodic peak at .apprx.-0.2 V (vs. SCE), while the electrogenerated LMB (leucomethylene blue) exhibits an anodic peak at almost the same potential in neutral phosphate buffer. In the presence of some surfactants such as cetyltrimethylammonium bromide (CTAB), cetylpyridinium bromide (CPB) and gemini surfactant butyl-.alpha.,.omega.-bis(dimethylcetylammonium bromide) (C16-C4-C16), the peaks, specially the anodic peak, become higher and shift to more pos. potentials. This results from the assocd. adsorption or surface complexation of LMB/MB+ with adsorbed surfactants. Surfactants with same alkyl chain (i.e., -(CH2)15Me) but different mol. structure, show different influence due to their different adsorbability and hydrophobicity. C16-C4-C16, bearing 2 hydrophobic alkyl chains, makes the MB peaks occur at more pos. potentials, while CPB makes the peaks grow more rapidly. Dihexadecyldimethylammonium bromide (DCAB), showing weaker adsorption under this conditions, has little influence on the peak height of MB. The influence of other factors is discussed as well.  
ST cationic surfactant effect cyclic voltammetry methylene blue silver electrode  
IT Surfactants  
(cyclic voltammetry of methylene blue at silver electrode in phosphate buffer soln. contg. surfactants)  
IT Cyclic voltammetry  
Reduction, electrochemical  
(of methylene blue at silver electrode in phosphate buffer soln. contg. surfactants)  
IT Adsorption  
(of surfactants by silver electrode and cyclic voltammetry of methylene

blue at silver electrode in phosphatebuffer soln. contg. surfactants)

IT 61-73-4, Methylene blue  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
 (cyclic voltammetry at silver electrode in phosphate buffer soln. contg. surfactants)

IT 7440-22-4, Silver, uses  
 RL: DEV (Device component use); USES (Uses)  
 (cyclic voltammetry of methylene blue at silver electrode in phosphate buffer soln. contg. surfactants)

IT 57-09-0, Cetyltrimethylammonium bromide 140-72-7, Cetylpyridinium bromide 29908-17-6 70755-47-4, Dihexadecyldimethylammonium bromide 175917-23-4 696644-56-1  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (cyclic voltammetry of methylene blue at silver electrode in phosphate buffer soln. contg. surfactants of)

IT 613-11-6, Leucomethylene blue  
 RL: CPS (Chemical process); FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)  
 (electrochem. reductive formation at silver electrode in phosphate buffer soln. contg. surfactants and cyclic voltammetry of methylene blue in presence of surfactants)

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (28) Zeng, B; Electroanalysis 1999, V11, P879 CAPLUS
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REFERENCE 2

AN 144:99160 CA  
 TI Electrolytically recoverable etching solution  
 IN Nehdi, Sadok Ben Rejeb  
 PA ELO-Chem CSM GmbH, Germany  
 SO PCT Int. Appl., 14 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA German  
 IC ICM C23F001-34.  
 ICS C23F001-46; H05K003-06  
 CC 76-3 (Electric Phenomena)  
 Section cross-reference(s): 56

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2006000364 A1 20060105 WO 2005-EP6622 20050620  
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
DE 102004030924 A1 20060119 DE 2004-10200403092420040625  
PRAI DE 2004-102004030924 20040625  
AB The invention relates to an electrolytically recoverable etching soln., esp. for etching of printed circuit boards and molded parts from Cu and Cu alloys. The etching soln. essentially consists of water, NH<sub>4</sub>OH, CuSO<sub>4</sub>, (NH<sub>4</sub>)<sub>2</sub>SO<sub>4</sub>, and optionally a V-contg. catalyst for increasing the etching rate. The etching soln. also contains methylene blue or its derivs. as an addnl. catalyst.  
ST etching soln printed circuit board  
IT Etching  
(electrolytically recoverable etching soln.)  
IT Printed circuit boards  
(electrolytically recoverable etching soln. for)  
IT copper alloy, base  
RL: TEM (Technical or engineered material use); USES (Uses)  
(electrolytically recoverable etching soln. for)  
IT 7440-50-8, Copper, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(electrolytically recoverable etching soln. for)  
IT 61-73-4, Methylene blue 613-11-6  
RL: CAT (Catalyst use); USES (Uses)  
(in electrolytically recoverable etching soln. for printed circuit boards)  
IT 1314-62-1, Vanadium pentoxide, uses 1336-21-6, Ammonium hydroxide 7758-99-8, Copper sulfate pentahydrate 7783-20-2, Ammonium sulfate, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(in electrolytically recoverable etching soln. for printed circuit boards)  
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
(1) Cordani; US 4784785 A 1988 CAPLUS  
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(4) Haug, H; DE 19800605 A1 1999 CAPLUS  
(5) Zimmermann, M; US 3257160 A 1966

# REFERENCE 3

AN 144:42237 CA  
TI Adsorptive and stripping behavior of methylene blue at gold electrodes in the presence of cationic gemini surfactants  
AU Li, Jiangwen; Zhao, Faqiong; Zhao, Jia; Zeng, Baizhao  
CS Department of Chemistry, Wuhan University, Wuhan, 430072, Peop. Rep. China  
SO Electrochimica Acta (2005), 51(2), 297-303  
CODEN: ELCAAV; ISSN: 0013-4686  
PB Elsevier B.V.  
DT Journal  
LA English  
CC 72-2 (Electrochemistry)  
Section cross-reference(s): 41, 66, 80  
AB The adsorptive and stripping behavior of methylene blue (i.e. methylene blue chloride, MB) at a Au electrode was studied with voltammetry, a.c. impedance spectra (ACIS) and quartz crystal microbalance (QCM). MB exhibits a pair of cyclic voltammetry peaks at .apprx.-0.3 V (vs. SCE) in 0.05M pH 6.9 phosphate buffer solns. In the presence of cationic gemini surfactants such as C16H33NMe2-C4H8-NMe2C16H33Br2 (C16-C4-C16), C16H33NMe2-C4H7OH-NMe2C16H33Br2 (C16-C4OH-C16), C16H33NMe2-CH2-C6H4-CH2-NMe2C16H33Br2 (C16-ph-C16) and C16H33NMe2-C12H24-NMe2C16H33Br2 (C16-C12-C16), the anodic peak grows rapidly and moves in pos. direction, but the cathodic peak gradually decreases, due to the assocn. adsorption

and electrostatic interaction of the geminis with MB and its reduced product (i.e. leucomethylene blue, LMB). With the aid of geminis the adsorption amt. of MB increases under open-circuit, but the impedance of the mixed adsorption film to  $\text{Fe}(\text{CN})_6^{3-4-}$  almost keeps unchanged, compared with either bare Au electrodes or MB film, while the adsorption film of geminis exhibits greater impedance. This behavior probably is due to the electron medium action of MB in the film. Gemini surfactants with same alkyl-chain (i.e.  $-(\text{CH}_2)_{15}\text{Me}$ ) but different mol. structure, exhibit different influence. The enhancing action of geminis studied follows such order as:  $\text{C16-ph-C16} > \text{C16-C4-C16} > \text{C16-C4OH-C16} > \text{C16-C12-C16}$ . The change of peak potential is ascribed to the interaction between MB and surfactants, as well as the blocking action of surfactant film. For comparison, the influence of dihexadecyldimethylammonium bromide (DCAB) and cetyltrimethylammonium bromide (CTAB) was studied, and the influence of other factors is discussed as well.

ST adsorptive stripping behavior methylene blue gold electrode cationic surfactant

IT Surfactants  
(cationic, gemini; cyclic voltammetry and adsorptive and stripping behavior of methylene blue at gold electrodes in presence of cationic gemini surfactants)

IT Electric impedance  
(of gold electrode in  $\text{KNO}_3$  soln. contg. cyanoferrates and methylene blue with and without cationic gemini surfactants)

IT Adsorption  
Cyclic voltammetry  
Reduction, electrochemical  
(of methylene blue at gold electrodes in presence of cationic gemini surfactants)

IT 57-09-0, Cetyltrimethylammonium bromide 70755-47-4, Dihexadecyldimethylammonium bromide  
RL: NUU (Other use, unclassified); USES (Uses)  
(adsorptive and stripping behavior of methylene blue at gold electrodes in presence of cationic gemini surfactants and comparison with)

IT 61-73-4, Methylene blue  
RL: ANT (Analyte); CPS (Chemical process); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process)  
(cyclic voltammetry and adsorptive and stripping behavior of methylene blue at gold electrodes in presence of cationic gemini surfactants)

IT 7440-57-5, Gold, uses  
RL: DEV (Device component use); USES (Uses)  
(cyclic voltammetry and adsorptive and stripping behavior of methylene blue at gold electrodes in presence of cationic gemini surfactants)

IT 29908-17-6 150324-77-9 175917-23-4 696644-56-1  
RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)  
(cyclic voltammetry and adsorptive and stripping behavior of methylene blue at gold electrodes in presence of cationic gemini surfactants)

IT 13746-66-2, Potassium ferricyanide 13943-58-3, Potassium ferrocyanide  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
(elec. impedance of gold electrode in  $\text{KNO}_3$  soln. contg. cyanoferrates and methylene blue with and without cationic gemini surfactants)

IT 613-11-6, Leucomethylene blue  
RL: FMU (Formation, unclassified); FORM (Formation, nonpreparative)  
(formation in methylene blue electrochem. redn. and adsorptive and stripping behavior of methylene blue at gold electrodes in presence of cationic gemini surfactants)

RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (22) Zhao, F; Electrochem Commun 2004, V6, P319 CAPLUS
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- (24) Zutic, V; J Electroanal Chem 1987, V219, P183 CAPLUS

#### REFERENCE 4

- AN 144:8083 CA
- TI oscillation redox processes in the leucomethylene blue-methylene blue system
- AU Magomedbekov, U. G.; Ismailova, F. O.; Gasangadzhieva, U. G.; Magomedbekov, N. Kh.
- CS Dagest. Gos. Univ., Russia
- SO Izvestiya Vysshikh Uchebnykh Zavedenii, Severo-Kavkazskii Region, Estestvennye Nauki (2004), (3), 71-74  
CODEN: IVUNE6; ISSN: 1026-2237
- PB Rostovskii Gosuniversitet
- DT Journal
- LA Russian
- CC 41-9 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
- AB The oxidn.-redn. processes in the system of leucomethylene blue-methylene blue in homogeneous medium running in the presence of oxygenated complexes of iron(II) were studied. These processes have been found to run in oscillatory regime under certain conditions. The values of the dimensionalities of the phase space and attractor were detd. on the basis of the anal. of the exptl. time series.
- ST leucomethylene blue oxidn oscillation iron oxygens
- IT Redox reaction  
(oscillation redox processes in the leucomethylene blue-methylene blue system)
- IT 73-24-5D, Adenine, oxygenated iron complexes 95-45-4D, Dimethylglyoxime, oxygenated iron complexes 7439-89-6D, Iron, oxygenated adenine and dimethylglyoxime complexes  
RL: CAT (Catalyst use); USES (Uses)  
(oscillation redox processes in the leucomethylene blue-methylene blue system)
- IT 61-73-4, Methylene blue 613-11-6, Leucomethylene blue  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
(oscillation redox processes in the leucomethylene blue-methylene blue system)

#### REFERENCE 5

- AN 144:120 CA
- TI Analysis of methylene blue in human urine by capillary electrophoresis
- AU Borwitzky, Holger; Haefeli, Walter E.; Burhenne, Juergen
- CS Department of Internal Medicine VI, Clinical Pharmacology and Pharmacoepidemiology, University of Heidelberg, Heidelberg, D-69120, Germany
- SO Journal of Chromatography, B: Analytical Technologies in the Biomedical and Life Sciences (2005), 826(1-2), 244-251  
CODEN: JCBAAI; ISSN: 1570-0232
- PB Elsevier B.V.
- DT Journal
- LA English
- CC 1-1 (Pharmacology)
- AB A capillary electrophoresis method for the detn. of the dye methylene blue (tetramethylthionine, MB) in human urine depending on liq./liq.-extn. and diode array detection has been developed, validated, and applied to samples of healthy individuals, who had been dosed with methylene blue within clin. studies. After extn. with dichloromethane and sodium hexanesulfonate, sample exts. were measured on an extended light path

capillary. The dye was detected simultaneously at 292 and 592 nm using methylene violet 3 RAX as internal std. The limit of quantification was 1.0 .mu.g/mL. The accuracy of the method varied between -15.2 and +0.8% and the precision ranged from 2.0 to 12.0%. The method was linear at least within 1.0 and 60 .mu.g/mL. In contrast to earlier indirect detns. no leuco methylene blue (LMB) was directly detected in urine, whereas in aq. test solns. contg. surplus amts. of ascorbic acid leuco methylene blue was well sepd. from MB in a single run.

ST methylene blue detn capillary electrophoresis  
IT Capillary electrophoresis  
Human  
Urine analysis  
(anal. of methylene blue in human urine by capillary electrophoresis)  
IT 61-73-4, Methylene blue 613-11-6, Leuco methylene blue  
RL: ANT (Analyte); ANST (Analytical study)  
(anal. of methylene blue in human urine by capillary electrophoresis)  
RE.CNT 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD  
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(26) Voyksner, R; Biomed Environ Mass Spectrom 1990, V19, P523 CAPLUS  
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# REFERENCE 6

AN 143:455004 CA  
TI Enzyme electrode response in solution containing enzyme substrate and species that associates with the substrate  
AU Mizutani, Fumio; Yabuki, Soichi; Sato, Yukari; Iijima, Seiichiro  
CS Hokkaido Center, National Institute of Advanced Industrial Science and Technology, Toyohira, Sapporo, 062-8517, Japan  
SO Sensors and Actuators, B: Chemical (2005), B108(1-2), 613-616  
CODEN: SABCEB; ISSN: 0925-4005  
PB Elsevier B.V.  
DT Journal  
LA English  
CC 9-1 (Biochemical Methods)  
Section cross-reference(s): 3  
AB An enzyme electrode response to the substrate (S) reduced by the addn. of a species (S') that form a complex with S: an S-S' complex formed was enzymically inactive and the complexation, of course, brought about the decrease in the free S-concn. This could be applied to the measurements of S in a high concn. range. For example, the addn. of a phenylboronic acid, which was known to form a complex with diols, to a conventional glucose oxidase (GOx)-based electrode system enabled to det. glucose up to 50 mM. Furthermore, the concn. of S' was detd. from the current decrease of the enzyme electrode: the concn. of DNA could be measured by using a peroxidase (HRP)-modified electrode and leuco-methylene blue (MBred),

which intercalated into DNA. In a soln. contg. methylene blue (MB) and hydrogen peroxide, a catalytic current was obtained on the HRP-modified electrode owing to the MB/MBred-recycling sequences. From the decrease of the catalytic current, the concn. of DNA (from salmon testes) was detd. with the detection limit of 5 ng ml<sup>-1</sup>.

ST enzyme electrode soln substrate species

IT Chemically modified electrodes

Enzyme electrodes

Salmon

Solutions

Testis

(enzyme electrode response in soln. contg. enzyme substrate and species that assoc. with the substrate)

IT DNA

RL: ANT (Analyte); ANST (Analytical study)

(enzyme electrode response in soln. contg. enzyme substrate and species that assoc. with the substrate)

IT Enzymes, uses

RL: ARG (Analytical reagent use); DEV (Device component use); ANST

(Analytical study); USES (Uses)

(enzyme electrode response in soln. contg. enzyme substrate and species that assoc. with the substrate)

IT 50-99-7, D-Glucose, analysis 7722-84-1, Hydrogen peroxide, analysis

RL: ANT (Analyte); ANST (Analytical study)

(enzyme electrode response in soln. contg. enzyme substrate and species that assoc. with the substrate)

IT 61-73-4, Methylene blue 98-80-6, Phenylboronic acid 613-11-6,

Leuco-methylene blue

RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)

(enzyme electrode response in soln. contg. enzyme substrate and species that assoc. with the substrate)

IT 9001-37-0, Glucose oxidase 250777-10-7, Peroxidase, horseradish

RL: ARG (Analytical reagent use); DEV (Device component use); ANST

(Analytical study); USES (Uses)

(enzyme electrode response in soln. contg. enzyme substrate and species that assoc. with the substrate)

RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD

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REFERENCE 7

AN 143:301546 CA

TI Electrochemical control of the photocurrent direction in intercalated DNA/Cds nanoparticle systems

AU Gill, Ron; Patolsky, Fernando; Katz, Eugenii; Willner, Itamar

CS Institute of Chemistry, The Hebrew University of Jerusalem, Jerusalem, 91904, Israel

<-----User Break----->

=> d kwic 2

L6 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2006 ACS on STN

RN \*\*\*613-11-6\*\*\* REGISTRY

OTHER CA INDEX NAMES:

CN \*\*\*Leucomethylenè blue (6CI)\*\*\*

OTHER NAMES:

CN \*\*\*Leukomethylene blue\*\*\*

CN \*\*\*Methylene blue leuco base\*\*\*

CN \*\*\*Methylene blue leuco form\*\*\*

CN \*\*\*Methylene blue, leuco\*\*\*  
CN \*\*\*Reduced methylene blue\*\*\*

=> d kwic

L6 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2006 ACS on STN  
RN \*\*\*7220-79-3\*\*\* REGISTRY  
OTHER NAMES:  
CN \*\*\*Methylene blue trihydrate\*\*\*

=> s methylene(3a)blue  
1480084 METHYLENE  
3 METHYLENES  
1480084 METHYLENE  
(METHYLENE OR METHYLENES)  
4983 BLUE  
2 BLUES  
4985 BLUE  
(BLUE OR BLUES)  
L7 59 METHYLENE(3A)BLUE

=> s triisopropyl? and l7  
2602 TRIISOPROPYL?  
L8 0 TRIISOPROPYL? AND L7

=> s tipsoclmb  
0 TIPSOCCLMB  
L9 0 TIPSOCCLMB

=> s (silane or silyl or silyloxycarbonyl) and l7  
169188 SILANE  
3 SILANES  
169188 SILANE  
(SILANE OR SILANES)  
553553 SILYL  
18 SILYLOXYCARBONYL  
L10 0 (SILANE OR SILYL OR SILYLOXYCARBONYL) AND L7

=> file caplus		
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	ENTRY	SESSION
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	ENTRY	SESSION
CA SUBSCRIBER PRICE	-1.42	-1.42

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=> s methylene(3a)blue
    121311 METHYLENE
      823 METHYLENES
    121805 METHYLENE
          (METHYLENE OR METHYLENES)
    247843 BLUE
      901 BLUES
    248229 BLUE
          (BLUE OR BLUES)
L11    24609 METHYLENE(3A)BLUE

=> s (silane or silyl or silyloxycarbonyl) and l11
    82286 SILANE
    30904 SILANES
    94998 SILANE
          (SILANE OR SILANES)
    31207 SILYL
      52 SILYLS
    31225 SILYL
          (SILYL OR SILYLS)
          6 Silyloxycarbonyl
L12    36 (SILANE OR SILYL OR Silyloxycarbonyl) AND L11

=> d all 1-36

L12 ANSWER 1 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2005:402276 CAPLUS
DN 143:111747
ED Entered STN: 12 May 2005
TI Ultra-fast synthesis of magnetic and luminescent silica beads for
versatile bioanalytical applications
AU Mueller-Schulte, Detlef; Schmitz-Rode, T.; Borm, Paul
CS MagnaMedics GmbH, Aachen, D-52066, Germany
SO Journal of Magnetism and Magnetic Materials (2005), 293(1), 135-143
CODEN: JMMMDC; ISSN: 0304-8853
PB Elsevier B.V.
DT Journal
LA English
CC 9-1 (Biochemical Methods)
Section cross-reference(s): 3
AB A method for the synthesis of both spherically shaped micro/nano silica
particles and silica hybrid particles using a novel inverse sol-gel
suspension technique was developed. The technique enables the synthesis
of beads within seconds and provides a simple basis for quantum dot and
biosubstances encapsulation. The carriers can be used as DNA adsorbents,
individually addressable optical codes for bioassays and biomol. library
screening as well as photonic crystals.
ST synthesis magnetic luminescent silica bead encapsulation adsorbent
bioanalysis
IT Spheres
    (beads; ultra-fast synthesis of magnetic and luminescent silica beads
    for versatile bioanal. applications)
IT Yeast
    (cell, encapsulation of; ultra-fast synthesis of magnetic and
    luminescent silica beads for versatile bioanal. applications)
IT Cell
    (encapsulation of; ultra-fast synthesis of magnetic and luminescent
    silica beads for versatile bioanal. applications)
IT DNA
    RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
    (Uses)
    (encapsulation of; ultra-fast synthesis of magnetic and luminescent
    silica beads for versatile bioanal. applications)
IT ***Silanes***
    RL: CPS (Chemical process); PEP (Physical, engineering or chemical
    process); PROC (Process)
    (functionalized; ultra-fast synthesis of magnetic and luminescent
    silica beads for versatile bioanal. applications)
IT Proteins
    RL: NUU (Other use, unclassified); USES (Uses)
    (green fluorescent, encapsulation of; ultra-fast synthesis of magnetic

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and luminescent silica beads for versatile bioanal. applications)

IT Encapsulation  
(nanoencapsulation; ultra-fast synthesis of magnetic and luminescent silica beads for versatile bioanal. applications)

IT Adsorbents  
Encapsulation  
Luminescence  
Magnetic particles  
Quantum dot devices  
Sol-gel processing  
(ultra-fast synthesis of magnetic and luminescent silica beads for versatile bioanal. applications)

IT 1306-24-7, Cadmium selenide, uses  
RL: TEM (Technical or engineered material use); USES (Uses)  
(Zn-modified quantum dot, encapsulation of; ultra-fast synthesis of magnetic and luminescent silica beads for versatile bioanal. applications)

IT 7440-57-5, Gold, uses  
RL: NUU (Other use, unclassified); USES (Uses)  
(colloid, encapsulation of; ultra-fast synthesis of magnetic and luminescent silica beads for versatile bioanal. applications)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 81-88-9, Rhodamine B  
2321-07-5, Fluorescein 7585-39-9, .beta.-Cyclodextrin 9002-89-5, Polyvinyl alcohol 9003-53-6, Polystyrene  
RL: NUU (Other use, unclassified); USES (Uses)  
(encapsulation of; ultra-fast synthesis of magnetic and luminescent silica beads for versatile bioanal. applications)

IT 7631-86-9, Silica, analysis  
RL: ARU (Analytical role, unclassified); CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); ANST (Analytical study); PROC (Process); USES (Uses)  
(ultra-fast synthesis of magnetic and luminescent silica beads for versatile bioanal. applications)

IT 2530-83-8, 3-Glycidyloxypropyltrimethoxy \*\*\*silane\*\*\*  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
(ultra-fast synthesis of magnetic and luminescent silica beads for versatile bioanal. applications)

IT 7440-66-6, Zinc, uses  
RL: MOA (Modifier or additive use); USES (Uses)  
(ultra-fast synthesis of magnetic and luminescent silica beads for versatile bioanal. applications)

IT 108-88-3, Toluene, uses 1332-37-2, Iron oxide, uses 26266-58-0, Span 85 66082-42-6, Prisorine 3700  
RL: TEM (Technical or engineered material use); USES (Uses)  
(ultra-fast synthesis of magnetic and luminescent silica beads for versatile bioanal. applications)

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L12 ANSWER 2 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:173634 CAPLUS

DN 143:208318

ED Entered STN: 02 Mar 2005

TI Study of the Nano-Size Silica Sol-Gel Film as the Matrix of Chemically Modified Electrode

AU Tu, Yi-Feng; Di, Jun-Wei; Chen, Xiao-Jun

CS College of Chemistry and Chemical Engineering, Suzhou University, Suzhou, 215006, Peop. Rep. China

SO Journal of Sol-Gel Science and Technology (2005), 33(2), 187-191  
CODEN: JSGTEC; ISSN: 0928-0707

PB Springer

DT Journal

LA English

CC 9-1 (Biochemical Methods)

AB This paper reports a new method to make the sol-gel film from silicate. It provided more profitable conditions than hydrolysis of alkoxyl  
\*\*\*silane\*\*\* to prep. the high-quality nanometers thin film. The thin film could be applied as the matrix to directly modify the mols. of  
\*\*\*methylene\*\*\* \*\*\*blue\*\*\* on electrode surface and kept their electrochem. activity excellently. It exhibited the remarkable catalytic activity for the oxidn. of NADH or redn. of Hb while severally embedding them in the sol-gel film together with \*\*\*methylene\*\*\* \*\*\*blue\*\*\*  
ST electrode silica sol gel film \*\*\*methylene\*\*\* \*\*\*blue\*\*\* ;  
\*\*\*methylene\*\*\* \*\*\*blue\*\*\* electrode nanotechnol NADH Hb

IT Sol-gel processing  
(coating; nano-size silica sol-gel film as matrix chem.-modified electrodes)

IT Chemically modified electrodes  
Films

(nano-size silica sol-gel film as matrix chem.-modified electrodes)

IT Cyclic voltammetry  
(nano-size silica sol-gel film as matrix \*\*\*methylene\*\*\*  
\*\*\*blue\*\*\* -modified electrodes)

IT Oxidation  
(nano-size silica sol-gel film as matrix \*\*\*methylene\*\*\*  
\*\*\*blue\*\*\* -modified electrodes oxidizing coembedded NADH)

IT Reduction  
(nano-size silica sol-gel film as matrix \*\*\*methylene\*\*\*  
\*\*\*blue\*\*\* -modified electrodes reducing coembedded Hb)

IT Hemoglobins  
RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
(Analytical study); USES (Uses)  
(nano-size silica sol-gel film as matrix \*\*\*methylene\*\*\*  
\*\*\*blue\*\*\* -modified electrodes reducing coembedded Hb)

IT Technology  
(nanotechnol.; nano-size silica sol-gel film as matrix chem.-modified electrodes)

IT Coating process  
(sol-gel; nano-size silica sol-gel film as matrix chem.-modified electrodes)

IT 7631-86-9, Silica, analysis  
RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST  
(Analytical study); USES (Uses)  
(nano-size silica sol-gel film as matrix chem.-modified electrodes)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\*  
RL: ARG (Analytical reagent use); DEV (Device component use); ANST  
(Analytical study); USES (Uses)  
(nano-size silica sol-gel film as matrix \*\*\*methylene\*\*\*  
\*\*\*blue\*\*\* -modified electrodes)

IT 58-68-4, NADH  
RL: ARG (Analytical reagent use); DEV (Device component use); ANST

(Analytical study); USES (Uses)

(nano-size silica sol-gel film as matrix \*\*\*methylene\*\*\*

\*\*\*blue\*\*\* -modified electrodes oxidizing coembedded NADH)

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L12 ANSWER 3 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:1127245 CAPLUS

DN 142:79481

ED Entered STN: 24 Dec 2004

TI Process for preparing porous hybrid comprising zeolite and chitosan and porous hybrid prepared thereby

IN Yoon, Kyung Byung; Lee, Eun Ah; Jeon, Eun; Lee, Yun Jo

PA Sogang University Corporation, S. Korea

SO PCT Int. Appl., 60 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM B01J020-18

CC 61-5 (Water)

Section cross-reference(s): 41, 60

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2004110619	A1	20041223	WO 2004-KR1467	20040618
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

PRAI KR 2003-39691 A 20030619

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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WO 2004110619	ICM	B01J020-18
	IPCI	B01J0020-18 [ICM,7]
	IPCR	B01J0020-10 [I,C]; B01J0020-18 [I,A]
	ECLA	B01J020/18B; B01J020/24; B01J039/14

AB The present invention relates to a process for prepg. a porous hybrid comprising zeolite and chitosan and a porous hybrid prepd. thereby, in particular, to a process for prepg. a porous chitosan-linking compd.-zeolite hybrid, which comprises the steps of: (a) forming a linking compd.-zeolite intermediate by linking a linking compd. to the surface of zeolite; and (b) prepg. said chitosan-linking compd.-zeolite hybrid by reacting said linking compd.- zeolite intermediate with chitosan or a linking compd.-chitosan, a porous hybrid prepd. thereby, an adsorbent and a method for purifying water. The porous chitosan-linking compd.-zeolite hybrid is capable of removing both cationic substances including heavy metals and anionic substances present in polluted water or wastewater.



ST prepn crosslinked chitosan zeolite wastewater water treatment

IT Wastewater treatment  
 Water purification  
 (adsorption; process for producing porous chitosan-linking  
 compd.-zeolite hybrid, and its use in water or wastewater treatment)

IT \*\*\*Silanes\*\*\*  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical  
 process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (alkoxy, as linking compd.; process for producing porous  
 chitosan-linking compd.-zeolite hybrid, and its use in water or  
 wastewater treatment)

IT Wastewater treatment  
 (decolorization; process for producing porous chitosan-linking  
 compd.-zeolite hybrid, and its use in water or wastewater treatment)

IT Wastewater treatment  
 Water purification  
 (filtration; process for producing porous chitosan-linking  
 compd.-zeolite hybrid, and its use in water or wastewater treatment)

IT \*\*\*Silanes\*\*\*  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical  
 process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)  
 (halosilanes, as linking compd.; process for producing porous  
 chitosan-linking compd.-zeolite hybrid, and its use in water or  
 wastewater treatment)

IT Wastewater treatment  
 Water purification  
 (ion exchange, of both cations and anions; process for producing porous  
 chitosan-linking compd.-zeolite hybrid, and its use in water or  
 wastewater treatment)

IT Functional groups  
 (isocyanato group, compds. with, as linking compd.; process for  
 producing porous chitosan-linking compd.-zeolite hybrid, and its use in  
 water or wastewater treatment)

IT Cellular materials  
 Crosslinking  
 Crosslinking agents  
 (process for producing porous chitosan-linking compd.-zeolite hybrid,  
 and its use in water or wastewater treatment)

IT Heavy metals  
 RL: POL (Pollutant); REM (Removal or disposal); OCCU (Occurrence); PROC  
 (Process)  
 (process for producing porous chitosan-linking compd.-zeolite hybrid,  
 and its use in water or wastewater treatment)

IT A zeolites  
 Y zeolites  
 Zeolites (synthetic), uses  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (process for producing porous chitosan-linking compd.-zeolite hybrid,  
 and its use in water or wastewater treatment)

IT Heat treatment  
 (to form covalent bonds between functional groups; process for  
 producing porous chitosan-linking compd.-zeolite hybrid, and its use in  
 water or wastewater treatment)

IT Freeze drying  
 (to transform to sponge-form; process for producing porous  
 chitosan-linking compd.-zeolite hybrid, and its use in water or  
 wastewater treatment)

IT Molecular sieves  
 (zeotype; process for producing porous chitosan-linking compd.-zeolite  
 hybrid, and its use in water or wastewater treatment)

IT 547-58-0, Methyl orange  
 RL: REM (Removal or disposal); PROC (Process)  
 (as anionic dye, adsorption of; process for producing porous  
 chitosan-linking compd.-zeolite hybrid, and its use in water or  
 wastewater treatment)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\*  
 RL: REM (Removal or disposal); PROC (Process)  
 (as cationic dye, adsorption of; process for producing porous  
 chitosan-linking compd.-zeolite hybrid, and its use in water or  
 wastewater treatment)

IT 107-02-8, Acrolein, uses 111-30-8, Glutaraldehyde 298-12-4, Glyoxylic  
 acid 623-27-8, 1,4-Benzenedicarboxaldehyde 13822-56-5, Aminopropyl

trimethoxysilane  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (as crosslinking agent; process for producing porous chitosan-linking  
 compd.-zeolite hybrid, and its use in water or wastewater treatment)

IT 9012-76-4, Chitosan  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (process for producing porous chitosan-linking compd.-zeolite hybrid,  
 and its use in water or wastewater treatment)

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L12 ANSWER 4 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2004:895201 CAPLUS  
 DN 142:302609  
 ED Entered STN: 27 Oct 2004  
 TI Solar energy utilization in degradation of 2-chlorophenol by immobilized  
 photosensitizers  
 AU Gryglik, D.; Miller, J. S.; Ledakowicz, S.  
 CS Department of Bioprocess Engineering, Faculty of Process and Environmental  
 Engineering, Technical University of Lodz, Lodz, 93005, Pol.  
 SO Solar Energy (2004), 77(5), 615-623  
 CODEN: SRENA4; ISSN: 0038-092X  
 PB Elsevier Ltd.  
 DT Journal  
 LA English  
 CC 60-2 (Waste Treatment and Disposal)  
 Section cross-reference(s): 67, 74

AB Photosensitized oxidn. of 2-chlorophenol using solar light was examd.  
 Rose bengal, \*\*\*methylene\*\*\* \*\*\*blue\*\*\*, and chlorin e6 were used  
 as sensitizers. They were immobilized in the \*\*\*silane\*\*\* gel and  
 used in the form of a thin film covering glass plates. In some lab-scale  
 expts. Xe arc lamps were used as solar simulators. The influence of  
 various exptl. conditions (light intensity, the amt. of sensitizer, O  
 concn.) on the rate of 2-chlorophenol degrdn. was investigated. The  
 results indicate a possibility of the application of solar radiation in  
 the middle latitudes for wastewater treatment. The use of \*\*\*silane\*\*\*  
 gel as a carrier for the sensitizer enables the pollutants removal at a  
 higher rate than in a homogeneous system. The stability and durability of  
 immobilized sensitizers were also studied.

ST photosensitized oxidn solar chlorophenol wastewater immobilized  
 photosensitizer

IT Sol-gel processing  
 (coating; removal of 2-chlorophenol from aq. soln. through  
 photosensitized oxidn. in heterogeneous system and applicability of  
 sol-gel-technique for immobilization of photosensitizers)

IT Wastewater treatment  
 (oxidn., catalytic, photochem.; removal of 2-chlorophenol from aq.  
 soln. through photosensitized oxidn. in heterogeneous system and  
 applicability of sol-gel-technique for immobilization of  
 photosensitizers)

IT Wastewater treatment  
 (photocatalytic, solar; removal of 2-chlorophenol from aq. soln.  
 through photosensitized oxidn. in heterogeneous system and  
 applicability of sol-gel-technique for immobilization of  
 photosensitizers)

IT Wastewater treatment  
 (photolytic; removal of 2-chlorophenol from aq. soln. through  
 photosensitized oxidn. in heterogeneous system and applicability of  
 sol-gel-technique for immobilization of photosensitizers)

IT Coating process  
 (sol-gel; removal of 2-chlorophenol from aq. soln. through  
 photosensitized oxidn. in heterogeneous system and applicability of  
 sol-gel-technique for immobilization of photosensitizers)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 11121-48-5, Rose Bengal  
 19660-77-6, Chlorin e6  
 RL: CAT (Catalyst use); USES (Uses)  
 (photosensitizer; removal of 2-chlorophenol from aq. soln. through  
 photosensitized oxidn. in heterogeneous system and applicability of

sol-gel-technique for immobilization of photosensitizers)  
 IT 95-57-8, 2-Chlorophenol  
 RL: POL (Pollutant); PRP (Properties); REM (Removal or disposal); OCCU  
 (Occurrence); PROC (Process)  
 (removal of 2-chlorophenol from aq. soln. through photosensitized  
 oxidn. in heterogeneous system and applicability of sol-gel-technique  
 for immobilization of photosensitizers)  
 IT 75-59-2, Tetramethylammonium hydroxide 78-10-4, TEOS 919-30-2,  
 3-Aminopropyltriethoxysilane 9016-00-6D, Polydimethylsiloxane,  
 hydroxy-terminated 31900-57-9D, Polydimethylsiloxane, hydroxy-terminated  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (removal of 2-chlorophenol from aq. soln. through photosensitized  
 oxidn. in heterogeneous system and applicability of sol-gel-technique  
 for immobilization of photosensitizers)  
 IT 7782-44-7, Oxygen, processes  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical  
 process); PROC (Process)  
 (removal of 2-chlorophenol from aq. soln. through photosensitized  
 oxidn. in heterogeneous system and applicability of sol-gel-technique  
 for immobilization of photosensitizers and effect of)

RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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L12 ANSWER 5 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:103485 CAPLUS

DN 141:128581

ED Entered STN: 09 Feb 2004

TI Ethoxysilane-capped PEO-PPO-PEO triblocks: a new family of reverse thermo-responsive polymers

AU Sosnik, Alejandro; Cohn, Daniel

CS The Casali Institute of Applied Chemistry, The Hebrew University of Jerusalem, Jerusalem, 91904, Israel

SO Biomaterials (2004), 25(14), 2851-2858

CODEN: BIMADU; ISSN: 0142-9612

PB Elsevier Science Ltd.

DT Journal

LA English

CC 63-5 (Pharmaceuticals)

Section cross-reference(s): 35

AB New reverse thermo-responsive polymers systems combining reverse thermal gelation behavior and a gradual increase in the mech. properties, were created by crosslinking ethoxysilane-capped poly(ethylene oxide)-poly(propylene oxide)-poly(ethylene oxide) triblocks in aq. solns. at physiol. conditions. Pluronic F127 (PEO99-PPO67-PEO99) was

functionalized with (3-isocyanatopropyl) triethoxysilane (IPTS) by reacting its terminal hydroxyl groups with the isocyanate. The \*\*\*silane\*\*\* -capped PEO-PPO-PEO triblock was characterized by 1H-NMR, GPC, FT-IR and DSC and the rheol. behavior of its aq. solns. were studied. The \*\*\*silane\*\*\* -contg. triblock retained the reverse thermo-responsive characteristics displayed by the original Pluronic. Over time, the ethoxysilane groups hydrolyzed and created silanol moieties that subsequently condensed, crosslinking the material and generating hydrogels that exhibited gradually increasing mech. properties. It was found that the higher the pH, the faster the process and the higher the viscosity levels attained. Finally, the ability of these gels to perform as matrixes for drug delivery was exemplified by releasing metronidazole and \*\*\*methylene\*\*\* \*\*\*blue\*\*\*. Findings showed that while a 30% F127 gel at 37.degree.C delivered all the drug within less than 3 days, F127di-IPTS gels completed the process at a much slower rate (up to 15 days).

ST ethoxysilane capped PEO PPO triblock reverse thermoresponsive drug delivery

IT Drug delivery systems  
(controlled-release; ethoxysilane-capped PEO-PPO-PEO triblocks as a new family of reverse thermo-responsive polymers)

IT Dissolution  
Rheology  
(ethoxysilane-capped PEO-PPO-PEO triblocks as a new family of reverse thermo-responsive polymers)

IT Polyoxyalkylenes, biological studies  
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(ethoxysilane-capped PEO-PPO-PEO triblocks as a new family of reverse thermo-responsive polymers)

IT Gelation  
(thermal; ethoxysilane-capped PEO-PPO-PEO triblocks as a new family of reverse thermo-responsive polymers)

IT 691397-13-4DP, Pluronic F127, ethoxysilane-terminated 807333-00-2P  
RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(ethoxysilane-capped PEO-PPO-PEO triblocks as a new family of reverse thermo-responsive polymers)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 443-48-1, Metronidazole  
RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(ethoxysilane-capped PEO-PPO-PEO triblocks as a new family of reverse thermo-responsive polymers)

IT 24801-88-5, 3-Isocyanatopropyltriethoxysilane 691397-13-4, Pluronic F127  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(ethoxysilane-capped PEO-PPO-PEO triblocks as a new family of reverse thermo-responsive polymers)

RE.CNT 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L12 ANSWER 6 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:855773 CAPLUS

DN 139:341818

ED Entered STN: 31 Oct 2003

TI Orthodontic adhesives containing polymerizable components and fluoride-releasing materials

IN Brennan, Joan V.; Mitra, Sumitra B.; Schaberg, Mark S.; Kuehn, Robert D.; Oxman, Joel D.; James, Darrell S.; Rozzi, Sharon M.; Cinader, David K.

PA 3M Innovative Properties Company, USA

SO PCT Int. Appl., 61 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM A61K006-00

ICS A61K006-083

CC 63-7 (Pharmaceuticals)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003088928	A1	20031030	WO 2003-US3774	20030207
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			
	AU 2003210921	A1	20031103	AU 2003-210921	20030207
	EP 1501466	A1	20050202	EP 2003-746913	20030207
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
	JP 200529637	T2	20051006	JP 2003-585681	20030207
PRAI	US 2002-126505	A	20020418		
	WO 2003-US3774	W	20030207		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2003088928	ICM	A61K006-00
	ICS	A61K006-083
	IPCI	A61K0006-00 [ICM,7]; A61K0006-083 [ICS,7]
	IPCR	A61K0006-00 [I,A]; A61K0006-00 [I,C]; A61K0006-02 [I,C]; A61K0006-083 [I,A]
	ECLA	A61K006/00B; A61K006/083B; A61K006/083D
AU 2003210921	IPCI	A61K0006-00 [ICM,7]; A61K0006-083 [ICS,7]
	IPCR	A61K0006-00 [I,A]; A61K0006-00 [I,C]; A61K0006-02 [I,C]; A61K0006-083 [I,A]
EP 1501466	IPCI	A61K0006-00 [ICM,7]; A61K0006-083 [ICS,7]
	IPCR	A61K0006-00 [I,A]; A61K0006-00 [I,C]; A61K0006-02 [I,C]; A61K0006-083 [I,A]
	ECLA	A61K006/00B; A61K006/083B; A61K006/083D
JP 200529637	IPCI	A61C0007-14 [ICM,7]; A61C0007-28 [ICS,7]; A61K0006-00 [ICS,7]
	IPCR	A61K0006-00 [I,A]; A61K0006-00 [I,C]; A61K0006-02 [I,C]; A61K0006-083 [I,A]

FTERM 4C052/JJ02; 4C052/JJ09; 4C089/AA10; 4C089/BA01;  
4C089/BA03; 4C089/BA04; 4C089/BA07; 4C089/BA11;  
4C089/BA13; 4C089/BC02; 4C089/BD01; 4C089/BD06;  
4C089/BE02; 4C089/BE03; 4C089/BE06; 4C089/CA03

AB Orthodontic adhesives and packaged articles including an orthodontic appliance having a base for bonding the appliance to a tooth are disclosed. In the packaged articles, an adhesive is on the base of the appliance, and a container at least partially surrounds the orthodontic appliance having adhesive on the base thereof. Thus, a compn. contained PEG dimethacrylate and a methacrylic urethane 6.59, PEG dimethacrylate 6.59, bis-GMA 7.31, BHT 0.021, camphorquinone 0.065, diphenyliodonium hexafluorophosphate 0.158, and Et 4-(N,N-dimethylamino)benzoate 0.263%, \*\*\*silane\*\*\* -treated quartz filler 38.88, \*\*\*silane\*\*\* -treated fluoroaluminosilicate filler 38.88, and pyrogenic silica 1.25%.

ST orthodontic adhesive polymer fluoride release

IT Dental materials and appliances  
(adhesives; orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT Dental materials and appliances  
(fillings; orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT Aluminosilicate glasses  
Fluoride glasses  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(fluoroaluminosilicate; orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT Tooth  
(orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT Dental materials and appliances  
(orthodontic; orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT Dyes  
(photobleachable; orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT Polysiloxanes, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(silica treated with; orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT 7631-86-9, Silica, biological studies  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(fumed, silicone-treated; orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT 308847-75-8P  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)  
(orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT 1565-94-2, Bis-GMA 25852-47-5, Polyethyleneglycol dimethacrylate 58109-40-3, Diphenyliodonium hexafluorophosphate  
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)  
(orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT 61-73-4, \*\*\*Methylene\*\*\* 2321-07-5, Fluorescein 2516-05-4, Methylene violet 4372-02-5, 4',5'-Dibromofluorescein 6359-05-3, Ethyl Eosin 11121-48-5, Rose Bengal 14808-60-7, Quartz, biological studies 16423-68-0, Erythrosin B 16984-48-8, Fluoride, biological studies 17372-87-1, Eosin Y 18472-87-2, Eosin bluish 37251-80-2, Toluidine blue 51395-88-1, Eosin Yellow  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

IT 9016-00-6, Polydimethyl siloxane 31900-57-9, Polydimethyl siloxane  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(silica treated with; orthodontic adhesives contg. polymerizable components and fluoride-releasing materials)

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD

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L12 ANSWER 7 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:805904 CAPLUS

DN 139:308991

ED Entered STN: 15 Oct 2003

TI Inks for ink jet printers for light- and water-resistant images

IN Udagawa, Reiko

PA Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

IC ICM C09D011-00

ICS B41J002-01; B41M005-00

CC 42-12 (Coatings, Inks, and Related Products)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003292858	A2	20031015	JP 2002-134726	20020401
PRAI JP 2002-134726		20020401		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 2003292858	ICM	C09D011-00
	ICS	B41J002-01; B41M005-00
	IPCI	C09D0011-00 [ICM,7]; B41J0002-01 [ICS,7]; B41M0005-00 [ICS,7]

AB The inorg. ions of acid dyes and basic dyes are substituted with hydrophilic org. ions to give amphipathic dyes and mixed with aminoalkoxysilanes, butyral resins, water-sol. solvents, and additives to prep. inks. Thus, Auramine O, Rhodamine B, and \*\*\*methylene\*\*\* \*\*\*blue\*\*\* were treated with Na p-toluenesulfonate and used in yellow, magenta, and cyan inks, resp.

ST light water resistant jet ink amphipathic dye; aminoalkoxysilane butyral resin amphipathic dye ink

IT Polyvinyl butyrals

RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)

(Slec BL 1; jet printing inks contg. amphipathic dyes for light and water resistance)

IT \*\*\*Silanes\*\*\*

RL: MOA (Modifier or additive use); USES (Uses)

(alkoxy, amino-; jet printing inks contg. amphipathic dyes for light and water resistance)

IT \*\*\*Silanes\*\*\*

RL: MOA (Modifier or additive use); USES (Uses)

(amino, alkoxy; jet printing inks contg. amphipathic dyes for light and water resistance)

IT Dyes

(amphipathic; jet printing inks contg. amphipathic dyes for light and water resistance)

IT Antibacterial agents

Electric conductors

Surfactants

UV stabilizers

(jet printing inks contg. amphipathic dyes for light and water resistance)

IT Inks

(jet-printing; jet printing inks contg. amphipathic dyes for light and water resistance)

IT Ions

(org., reaction products with dyes; jet printing inks contg. amphipathic dyes for light and water resistance)

IT Amines, uses

RL: MOA (Modifier or additive use); USES (Uses)

( \*\*\*silyl\*\*\* , alkoxy; jet printing inks contg. amphipathic dyes for light and water resistance)

IT 2465-27-2DP, Auramine O, reaction products with sodium toluenesulfonate  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (Auramine O; jet printing inks contg. amphipathic dyes for light and water resistance)

IT 81-88-9DP, Rhodamine B, reaction products with sodium toluenesulfonate  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (Rhodamine B; jet printing inks contg. amphipathic dyes for light and water resistance)

IT 3380-34-5, Triclosan  
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)  
 (jet printing inks contg. amphipathic dyes for light and water resistance)

IT 61-73-4DP, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* , reaction products with sodium toluenesulfonate 657-84-1DP, Sodium p-toluenesulfonate, reaction products with dyes  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (jet printing inks contg. amphipathic dyes for light and water resistance)

IT 87-18-3, p-tert-Butylphenyl salicylate 919-30-2, 3-Aminopropyltriethoxysilane  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (jet printing inks contg. amphipathic dyes for light and water resistance)

L12 ANSWER 8 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 2003:800826 CAPLUS  
 DN 139:281686  
 ED Entered STN: 13 Oct 2003

TI Adsorption of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* onto silylated silica surfaces, studied using visible attenuated total reflection spectroscopy with a slab optical waveguide

AU Tsunoda, Kin-Ichi; Umemura, Tomonari; Ueno, Hiroko; Okuno, Eriko; Akaiwa, Hideo

CS Department of Chemistry, Gunma University, Kiryu, 376-8515, Japan

SO Applied Spectroscopy (2003), 57(10), 1273-1277  
 CODEN: APSPA4; ISSN: 0003-7028

PB Society for Applied Spectroscopy

DT Journal

LA English

CC 66-4 (Surface Chemistry and Colloids)

AB The behavior of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* (MB) mols. at silica/water and silylated silica/water interfaces was examd. using visible attenuated total reflection spectroscopy with a slab optical waveguide (SOWG). An alkyl \*\*\*silane\*\*\* coating changed the adsorbed form of MB on the surface from a dimer (.lambda.max = 600 nm, bare SiO2 surface) to a monomer (.lambda.max = 670 nm), and the C no. of the silylation reagent influenced the amt. of adsorption and the orientation of the mol. Moreover, the addn. of an anionic surfactant, dodecylbenzenesulfonate (DBS), caused the deposition of MB/DBS ion pairs, which gave an identical attenuated total reflection (ATR) spectrum to that of the dimer. Linear dichroism measurements revealed that the ion pairs were adsorbed onto the silylated SiO2 surface randomly in terms of the orientation angle of MB, while the MB monomer was strongly oriented, i.e., the direction of the transition moment of MB roughly parallels the surface plane. This difference in the orientation angles of the adsorbed species can be utilized for their selective detection using polarization SOWG measurements.

ST \*\*\*methylene\*\*\* \*\*\*blue\*\*\* adsorption silylated silica surface

IT Adsorbed substances  
 Dichroism  
 Interfacial structure  
 Molecular orientation  
 Silylation  
 (adsorption of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* onto silylated SiO2 surfaces)

IT 75-77-4, Trimethyl chlorosilane, processes 112-04-9,



Octadecyltrichlorosilane 5283-66-9, Octyltrichlorosilane  
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)  
 (adsorption of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* onto silylated SiO2 surfaces)  
 IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\*  
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)  
 (adsorption of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* onto silylated SiO2 surfaces)  
 IT 7631-86-9, Silica, properties  
 RL: PRP (Properties)  
 (adsorption of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* onto silylated SiO2 surfaces)  
 IT 25155-30-0, Sodium Dodecylbenzenesulfonate  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (adsorption of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* onto silylated SiO2 surfaces using)

RE.CNT 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD

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- (1) Conboy, J; Angew Chem Int Ed 2000, V39, P2882 CAPLUS
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L12 ANSWER 9 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:669683 CAPLUS

DN 137:206597

ED Entered STN: 05 Sep 2002

TI Color-changing dental compositions

IN Trom, Matthew C.; Oxman, Joel D.

PA 3M Innovative Properties Company, USA

SO U.S., 11 pp.

CODEN: USXXAM

DT Patent

LA English

IC ICM C08J003-00

INCL 523118000

CC 63-7 (Pharmaceuticals)

Section cross-reference(s): 38

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6444725	B1	20020903	US 2000-489612	20000121
PRAI US 2000-489612		20000121		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 6444725	ICM	C08J003-00
	INCL	523118000
	IPCI	C08J0003-00 [ICM,7]
	IPCR	A61K0006-00 [I,A]; A61K0006-00 [I,C]; A61K0006-02 [I,A]; A61K0006-02 [I,C]; A61K0006-083 [I,A]
	NCL	523/118.000; 522/025.000; 522/075.000; 522/908.000
	ECLA	A61K006/00; A61K006/02; A61K006/083B
AB	An aesthetic dental sealant comprising a hardenable resin, a hardener, and a colorant, the compn. has an initial color prior to exposure to actinic radiation and a final color that is different from the initial color subsequent to the compn. being exposed to actinic radiation. A light curable compn. was prepd. comprising Bis-GMA 41.595, TEGDMA 41.595, camphorquinone 0.15, ethyl-4-dimethylaminobenzoate 0.86, diphenyliodonium hexafluorophosphate 0.51, Tinuvin P (UV stabilizer) 0.86, Aerosil R972 (***silane*** treated fumed silica) 5.13, TiO2 0.74, and tetrabutylammonium tetrafluoroborate 8.56%.	
ST	dental sealant resin hardener colorant actinic radiation	
IT	Electron donors (color-changing dental compns.)	
IT	Coating process Etching (compns.; color-changing dental compns.)	
IT	Onium compounds RL: NUU (Other use, unclassified); USES (Uses) (iodonium; color-changing dental compns.)	
IT	Dyes (photobleachable; color-changing dental compns.)	
IT	Dental materials and appliances (sealants; color-changing dental compns.)	
IT	453556-37-1 453556-38-2 RL: DEV (Device component use); THU (Therapeutic use); BIOL (Biological study); USES (Uses) (color-changing dental compns.)	
IT	61-73-4, ***Methylene*** ***Blue*** 548-24-3, Eosin B 596-03-2, 4',5'-Dibromofluorescein 2321-07-5, Fluorescein 6359-05-3, Ethyl eosin 8004-94-2, Methylene Violet 11121-48-5, Rose Bengal 16423-68-0, Erythrosin B 18472-87-2, Eosin bluish 33239-19-9 37251-80-2, Toluidine Blue 51395-88-1, Eosin Yellow RL: NUU (Other use, unclassified); USES (Uses) (color-changing dental compns.)	
IT	16984-48-8, Fluoride, biological studies RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (color-changing dental compns.)	
IT	17634-39-8D, Fluorone, derivs. RL: NUU (Other use, unclassified); USES (Uses) (dyes; color-changing dental compns.)	
RE.CNT	62	THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE		
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(3)	Anon; EP 173567 1986 CAPLUS	
(4)	Anon; JP 6144910 1986	
(5)	Anon; WO 9514716 1995 CAPLUS	
(6)	Anon; GB 2310855 1997 CAPLUS	
(7)	Anon; JP 11139920 1999 CAPLUS	
(8)	Anon; Crypsis Product Information Brochure 1994	
(9)	Berg; US 4387240 A 1983 CAPLUS	
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(19)	Gottschalk; US 4874450 A 1989	
(20)	Gross; US 4002669 A 1977 CAPLUS	
(21)	Gross; US 4115346 A 1978 CAPLUS	
(22)	Jacobs; US 5172809 A 1992	

(23) Jacobs; US 5348154 A 1994  
 (24) Jacobs; US 5354199 A 1994  
 (25) Jacobs; US 5552177 A 1996 CAPLUS  
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 (29) Kawahara; US 4327014 A 1982 CAPLUS  
 (30) Lee; US 3539533 A 1970 CAPLUS  
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 (35) Mitra; US 5332429 A 1994 CAPLUS  
 (36) Neckers; US 5639802 A 1997 CAPLUS  
 (37) Orlowski; US 4379695 A 1983 CAPLUS  
 (38) Oxman; US 5583178 A 1996 CAPLUS  
 (39) Oxman; US 5596025 A 1997 CAPLUS  
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 (44) Randklev; US 4695251 A 1987  
 (45) Randklev; US 5015180 A 1991  
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L12 ANSWER 10 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:595119 CAPLUS

DN 137:137272

ED Entered STN: 09 Aug 2002

TI Designs of labels for detection with a surface-selective nonlinear optical technique

IN Salafsky, Joshua S.

PA USA

SO PCT Int. Appl., 35 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G01N033-00

ICS B22F003-26; B22F007-04; B32B005-16; C01G049-08

CC 9-14 (Biochemical Methods)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002061415	A1	20020808	WO 2001-US22412	20010717
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2439542	AA	20020808	CA 2001-2439542	20010717
	EP 1364204	A1	20031126	EP 2001-952798	20010717
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,				

IE, SI, LT, LV, FI, RO, MK, CY, AL, TR  
 . US 2004146460 A1 20040729 US 2004-467098 20040317  
 PRAI US 2001-265755P P 20010201  
 WO 2001-US22412 W 20010717

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002061415	ICM	G01N033-00
	ICS	B22F003-26; B22F007-04; B32B005-16; C01G049-08
	IPCI	G01N0033-00 [ICM,7]; B22F0003-26 [ICS,7]; B22F0007-04 [ICS,7]; B32B0005-16 [ICS,7]; C01G0049-08 [ICS,7]
	IPCR	G01N0027-447 [I,A]; G01N0027-447 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-58 [I,A]; G01N0033-58 [I,C]; G02F0001-35 [N,A]; G02F0001-35 [N,C]; G02F0001-37 [N,A]
CA 2439542	ECLA	G01N027/447B3A2; G01N033/543K2; G01N033/58D
	IPCI	G01N0033-00 [ICM,7]; B22F0007-04 [ICS,7]; C01G0049-08 [ICS,7]; B32B0005-16 [ICS,7]; B22F0003-26 [ICS,7]
EP 1364204	IPCI	G01N0033-00 [ICM,7]; B22F0003-26 [ICS,7]; B22F0007-04 [ICS,7]; B32B0005-16 [ICS,7]; C01G0049-08 [ICS,7]
	IPCR	G01N0027-447 [I,A]; G01N0027-447 [I,C]; G01N0033-543 [I,A]; G01N0033-543 [I,C]; G01N0033-58 [I,A]; G01N0033-58 [I,C]; G02F0001-35 [N,A]; G02F0001-35 [N,C]; G02F0001-37 [N,A]
US 2004146460	IPCI	G01N0033-00 [ICM,7]; A61K0049-00 [ICS,7]
	IPCR	G01N0027-447 [I,A]; G01N0027-447 [I,C]; G01N0033-58 [I,A]; G01N0033-58 [I,C]
	NCL	424/009.600
	ECLA	G01N027/447B3A2; G01N033/58
AB		The invention concerns second harmonic, sum and difference frequency generation and their use to detect a variety of processes, which are otherwise undetectable, using nonlinear-active labels. The labels must have as high a hyperpolarizability as possible. Several designs for large hyperpolarizability second-harmonic active labels are described herein. These labels can be attached to any target mol. or particle, resulting in more highly nonlinear-optically active targets.
ST		label optical technique frequency generation protein genetic engineering colloid
IT		Bond (-CH; designs of labels for detection with a surface-selective nonlinear optical technique)
IT		Esters, biological studies RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study) (Me; designs of labels for detection with a surface-selective nonlinear optical technique)
IT		Esters, biological studies RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study) (NHS; designs of labels for detection with a surface-selective nonlinear optical technique)
IT		Dyes (Styryl-based; designs of labels for detection with a surface-selective nonlinear optical technique)
IT		Interface (air-water; designs of labels for detection with a surface-selective nonlinear optical technique)
IT		Spheres (beads; designs of labels for detection with a surface-selective nonlinear optical technique)
IT		Carboxyl group (carbodiimide-activated; designs of labels for detection with a surface-selective nonlinear optical technique)
IT		Interface (cellular; designs of labels for detection with a surface-selective nonlinear optical technique)
IT		Bond (covalent; designs of labels for detection with a surface-selective nonlinear optical technique)
IT		Unsaturated compounds RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)

(cyanines; designs of labels for detection with a surface-selective nonlinear optical technique)

IT Aggregation  
 Azo dyes  
 Carboxyl group  
 Cell  
 Clusters  
 Colloids  
 Cyanine dyes  
 Cyanine dyes  
 Drugs  
 Electrostatic force  
 Functional groups  
 Genetic engineering  
 Hydroxyl group  
 Labels  
 Latex  
 Linking agents  
 Liposomes  
 Liquid-liquid interface  
 Nanocrystals  
 Optical hyperpolarizability  
 Self-assembled monolayers  
 Semiconductor materials  
 Solid-solid interface  
 Virus  
 (designs of labels for detection with a surface-selective nonlinear optical technique)

IT Antibodies and Immunoglobulins  
 Antigens  
 Carbohydrates, analysis  
 Enzymes, analysis  
 Ligands  
 Nucleic acids  
 Oligonucleotides  
 Peptides, analysis  
 Receptors  
 RL: ANT (Analyte); ANST (Analytical study)  
 (designs of labels for detection with a surface-selective nonlinear optical technique)

IT Proteins  
 RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)  
 (designs of labels for detection with a surface-selective nonlinear optical technique)

IT Oligosaccharides, analysis  
 RL: ANT (Analyte); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study)  
 (designs of labels for detection with a surface-selective nonlinear optical technique)

IT Bacteriorhodopsins  
 Fusion proteins (chimeric proteins)  
 RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical study); USES (Uses)  
 (designs of labels for detection with a surface-selective nonlinear optical technique)

IT Aldehydes, biological studies  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
 (designs of labels for detection with a surface-selective nonlinear optical technique)

IT Amines, biological studies  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
 (designs of labels for detection with a surface-selective nonlinear optical technique)

IT Gene expression  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)  
 (designs of labels for detection with a surface-selective nonlinear optical technique)

IT Ketones, biological studies

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (designs of labels for detection with a surface-selective nonlinear  
 optical technique)

IT Phosphatidylcholines, biological studies  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (designs of labels for detection with a surface-selective nonlinear  
 optical technique)

IT Polyenes  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (designs of labels for detection with a surface-selective nonlinear  
 optical technique)

IT Polyimides, biological studies  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (designs of labels for detection with a surface-selective nonlinear  
 optical technique)

IT Polymers, biological studies  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (designs of labels for detection with a surface-selective nonlinear  
 optical technique)

IT Glass, properties  
 Salts, properties  
 \*\*\*Silanes\*\*\*  
 RL: PRP (Properties)  
 (designs of labels for detection with a surface-selective nonlinear  
 optical technique)

IT Frequency  
 (difference; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Thiols, properties  
 RL: PRP (Properties)  
 (functionalized; designs of labels for detection with a  
 surface-selective nonlinear optical technique)

IT Proteins  
 RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical  
 study); USES (Uses)  
 (green fluorescent; designs of labels for detection with a  
 surface-selective nonlinear optical technique)

IT Cyanine dyes  
 (hemicyanine; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Cyanine dyes  
 (indodicarbo-; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Acetyl group  
 (iodo-; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Surface  
 (liq.-vapor; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Interface  
 (membrane; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Symmetry  
 (non-centro; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Particles  
 (non-centrosym. metallic; designs of labels for detection with a  
 surface-selective nonlinear optical technique)

IT Bond  
 (non-covalent; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Chemisorption  
 (physio-; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Molecules  
 (small; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Esters, biological studies  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (sulfo-NHS; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Frequency  
 (sum; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT Glycols, biological studies  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (vicinal; designs of labels for detection with a surface-selective  
 nonlinear optical technique)

IT 155862-95-6 155863-00-6  
 RL: ARG (Analytical reagent use); PRP (Properties); ANST (Analytical  
 study); USES (Uses)  
 (designs of labels for detection with a surface-selective nonlinear  
 optical technique)

IT 56-85-9, Glutamine, biological studies 58-85-5, Biotin 61-73-4,  
 \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 62-53-3D, Aniline, tricyanovinyl  
 derivs. 77-77-0, Vinyl sulfone 92-84-2, Phenothiazine 103-33-3D,  
 Azobenzene, sulfonyl-substituted 108-78-1, Melamine, biological studies  
 110-02-1, Thiophene 198-55-0, Perylene 273-53-0, Benzoxazole  
 288-42-6D, Oxazole, derivs. 541-59-3, Maleimide 588-59-0, Stilbene  
 588-59-0D, Stilbene, diazo- derivs. 1283-93-8 1333-47-7D,  
 Methylcoumarin, azido- 2321-07-5, Fluorescein 3784-99-4D, Stilbazium,  
 derivs. 5998-92-5D, 5-aryl derivs. 9003-21-8, Polymethylacrylate  
 9013-20-1, Streptavidin 13940-21-1, Sulfhydryl 25215-10-5, Guanidinium  
 25265-76-3, Diaminobenzene 38620-93-8, Stilbazole 56902-08-0,  
 Bithiophene  
 RL: BSU (Biological study, unclassified); PRP (Properties); BIOL  
 (Biological study)  
 (designs of labels for detection with a surface-selective nonlinear  
 optical technique)

IT 288-42-6, 1,3-Oxazole 288-42-6D, 1,3-Oxazole, 2,5-diaryl derivs.  
 1303-00-0, Gallium arsenide (GaAs), properties 1306-23-6, Cadmium  
 sulfide (CdS), properties 1306-24-7, Cadmium selenide (CdSe), properties  
 1332-29-2, Tin oxide 7440-06-4, Platinum, properties 7440-21-3,  
 Silicon, properties 7440-22-4, Silver, properties 7440-57-5, Gold,  
 properties 7631-86-9, Silica, properties 9003-53-6, Polystyrene  
 12063-98-8, Gallium phosphide (GaP), properties 22398-80-7, Indium  
 phosphide (InP), properties 70380-75-5D, 2-aryl derivs. 110360-50-4  
 439858-43-2  
 RL: PRP (Properties)  
 (designs of labels for detection with a surface-selective nonlinear  
 optical technique)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

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- (2) Hansen; US 3253065 A 1966
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- (6) Schickfluss; US 3847909 A 1974 CAPLUS
- (7) Tang; WO 9851435 A1 1998 CAPLUS
- (8) Uchida; US 5652060 A 1997 CAPLUS

L12 ANSWER 11 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:522159 CAPLUS

DN 137:59858

ED Entered STN: 12 Jul 2002

TI Method and apparatus using a surface-selective nonlinear optical technique

IN Salafsky, Joshua S.

PA USA

SO PCT Int. Appl., 88 pp.

CODEN: PIXXD2

DT Patent

LA English

IC ICM G01N033-543

CC 9-1 (Biochemical Methods)

Section cross-reference(s): 1

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002054071	A1	20020711	WO 2001-US22441	20010717
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2434076	AA	20020711	CA 2001-2434076	20010717
	EP 1358482	A1	20031105	EP 2001-954721	20010717
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004530105	T2	20040930	JP 2002-554718	20010717
PRAI	US 2001-260261P	P	20010108		
	US 2001-260300P	P	20010108		
	US 2001-262214P	P	20010117		
	WO 2001-US22441	W	20010717		

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
WO 2002054071	ICM	G01N033-543
	IPCI	G01N0033-543 [ICM,7]
	IPCR	G01N0033-543 [I,A]; G01N0033-543 [I,C]; H04L0029-08 [N,A]; H04L0029-08 [N,C]
	ECLA	G01N033/543K2
CA 2434076	IPCI	G01N0033-543 [ICM,7]; G06F0017-00 [ICS,7]; G06F0019-00 [ICS,7]; C12Q0001-02 [ICS,7]; C12Q0001-68 [ICS,7]; G01N0021-84 [ICS,7]
EP 1358482	IPCI	G01N0033-543 [ICM,7]
	IPCR	G01N0033-543 [I,A]; G01N0033-543 [I,C]; H04L0029-08 [N,A]; H04L0029-08 [N,C]
JP 2004530105	IPCI	G01N0021-63 [ICM,7]; G01N0021-27 [ICS,7]; G01N0033-53 [ICS,7]; G01N0033-543 [ICS,7]; G01N0033-545 [ICS,7]; G01N0033-552 [ICS,7]; G01N0033-553 [ICS,7]; G01N0033-566 [ICS,7]; G01N0021-05 [ICS,7]
	IPCR	G01N0033-543 [I,A]; G01N0033-543 [I,C]; H04L0029-08 [N,A]; H04L0029-08 [N,C]
	FTERM	2G043/AA03; 2G043/BA16; 2G043/CA03; 2G043/DA02; 2G043/DA05; 2G043/EA10; 2G043/EA13; 2G043/EA14; 2G043/FA01; 2G043/FA02; 2G043/HA01; 2G043/HA05; 2G043/HA06; 2G043/HA07; 2G043/HA15; 2G043/JA02; 2G043/JA03; 2G043/JA04; 2G043/KA01; 2G043/KA05; 2G043/KA08; 2G043/KA09; 2G043/LA02; 2G043/LA03; 2G043/MA01; 2G043/NA01; 2G057/AA02; 2G057/AA04; 2G057/AB07; 2G057/AC01; 2G057/BA05; 2G059/AA05; 2G059/BB12; 2G059/CC16; 2G059/DD05; 2G059/EE02; 2G059/EE05; 2G059/EE12; 2G059/GG01; 2G059/GG04; 2G059/GG08; 2G059/HH01; 2G059/HH02; 2G059/HH06; 2G059/JJ02; 2G059/JJ05; 2G059/JJ12; 2G059/JJ13; 2G059/JJ15; 2G059/JJ18; 2G059/JJ19; 2G059/JJ20; 2G059/KK04; 2G059/LL04; 2G059/MM01; 2G059/MM03
AB	A surface-selective nonlinear optical technique, such as second harmonic or sum frequency generation, is used to detect target-probe binding reactions or their effects, at an interface, without the use of labels. In addn., the direction of the nonlinear light is scattered from the interface in a well-defined direction and therefore its incidence at a detector some distance from the interface may be easily mapped to a specific and known location at the interface.	
ST	app surface selective nonlinear optical technique; biochip optical imaging hybridization drug screening protein DNA RNA	
IT	Cooperative phenomena (antagonism; method and app. using a surface-selective nonlinear optical technique)	
IT	Apparatus (array; method and app. using a surface-selective nonlinear optical technique)	
IT	Surface electric charge (biol.; method and app. using a surface-selective nonlinear optical	



technique)

IT . Unsaturated compounds  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (cyanines; method and app. using a surface-selective nonlinear optical technique)

IT Second-harmonic generation  
 (electrooptical; method and app. using a surface-selective nonlinear optical technique)

IT Imaging  
 (endoscopy; method and app. using a surface-selective nonlinear optical technique)

IT Wave  
 (evanescent, reflection; method and app. using a surface-selective nonlinear optical technique)

IT Cyanine dyes  
 (hemicyanine; method and app. using a surface-selective nonlinear optical technique)

IT Cyanine dyes  
 (indodicarbo-; method and app. using a surface-selective nonlinear optical technique)

IT Ion channel  
 RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);  
 USES (Uses)  
 (ligand-gated; method and app. using a surface-selective nonlinear optical technique)

IT Proteins  
 RL: PRP (Properties)  
 (membrane; method and app. using a surface-selective nonlinear optical technique)

IT Affinity  
 Animal cell  
 Animal tissue  
 Azo dyes  
 Cyanine dyes  
 Electrostatic force  
 Fiber optics  
 Interface  
 Labels  
 Latex  
 Mathematical methods  
 Microarray technology  
 Molecular recognition  
 Nanoparticles  
 Optical detectors  
 Optical sensors  
 Planar waveguides (optical)  
 Protein sequences  
 Semiconductor materials  
 Simulation and Modeling  
 Sum-frequency generation  
 UV radiation  
 Virus  
 (method and app. using a surface-selective nonlinear optical technique)

IT Neuropeptides  
 RL: ANT (Analyte); ANST (Analytical study)  
 (method and app. using a surface-selective nonlinear optical technique)

IT Antibodies and Immunoglobulins  
 Antigens  
 Carbohydrates, analysis  
 Enzymes, analysis  
 Haptens  
 Hormones, animal, analysis  
 Ligands  
 Nucleic acids  
 Nucleosides, analysis  
 Oligonucleotides  
 Oligosaccharides, analysis  
 Peptide nucleic acids  
 Peptides, analysis  
 Polynucleotides  
 Receptors  
 Toxins

cDNA  
 RL: ANT (Analyte); ARG (Analytical reagent use); ANST (Analytical study);  
 USES (Uses)  
 (method and app. using a surface-selective nonlinear optical technique)

IT Proteins  
 RL: ANT (Analyte); ARG (Analytical reagent use); PRP (Properties); ANST  
 (Analytical study); USES (Uses)  
 (method and app. using a surface-selective nonlinear optical technique)

IT DNA  
 RNA  
 RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
 (method and app. using a surface-selective nonlinear optical technique)

IT Polyenes  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (method and app. using a surface-selective nonlinear optical technique)

IT Polyimides, analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (method and app. using a surface-selective nonlinear optical technique)

IT Glass, uses  
 RL: DEV (Device component use); USES (Uses)  
 (method and app. using a surface-selective nonlinear optical technique)

IT Metals, uses  
 RL: DEV (Device component use); USES (Uses)  
 (method and app. using a surface-selective nonlinear optical technique)

IT Polyamide fibers, uses  
 RL: DEV (Device component use); USES (Uses)  
 (method and app. using a surface-selective nonlinear optical technique)

IT Phospholipids, properties  
 RL: PRP (Properties)  
 (method and app. using a surface-selective nonlinear optical technique)

IT Fluids  
 (microfluids; method and app. using a surface-selective nonlinear  
 optical technique)

IT Egg  
 (oocyte; method and app. using a surface-selective nonlinear optical  
 technique)

IT Biosensors  
 (optical; method and app. using a surface-selective nonlinear optical  
 technique)

IT \*\*\*Silanes\*\*\*  
 RL: DEV (Device component use); USES (Uses)  
 (organosilanes; method and app. using a surface-selective nonlinear  
 optical technique)

IT Nucleic acid bases  
 RL: BSU (Biological study, unclassified); BIOL (Biological study)  
 (pairing; method and app. using a surface-selective nonlinear optical  
 technique)

IT Phosphates, analysis  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (phosphoramidates; method and app. using a surface-selective nonlinear  
 optical technique)

IT Electrooptical effect  
 (second-harmonic generation; method and app. using a surface-selective  
 nonlinear optical technique)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 92-84-2, Phenothiazine  
 103-33-3D, derivs. 103-33-3D, Azobenzene, sulfonyl derivs. 108-78-1D,  
 Melamine, derivs. 198-55-0D, Perylene, derivs. 273-53-0D, Benzoxazole,  
 derivs. 288-42-6D, Oxazole, cycloalkano and diaryl derivs. 1283-93-8  
 2321-07-5D, Fluorescein, derivs. 3784-99-4D, Stilbazium, derivs.  
 5998-92-5D, aryl derivs. 17082-33-6D, derivs. 25087-26-7D,  
 Polymethacrylic acid, derivs. 25265-76-3D, Diaminobenzene, derivs.  
 38620-93-8, Stilbazole 70380-75-5D, aryl derivs. 110360-50-4  
 155862-95-6 155863-00-6 439858-43-2 439858-44-3D, derivs.  
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
 (method and app. using a surface-selective nonlinear optical technique)

IT 1303-00-0, Gallium arsenide, uses 1306-23-6, Cadmium sulfide, uses  
 1306-24-7, Cadmium selenide, uses 7440-06-4, Platinum, uses 7440-22-4,  
 Silver, uses 7440-57-5, Gold, uses 13463-67-7, Titanium oxide, uses  
 14014-97-2, Gallium phosphate 14693-82-4, Indium phosphate  
 RL: DEV (Device component use); USES (Uses)  
 (method and app. using a surface-selective nonlinear optical technique)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE  
(1) Batchelder; US 4844613 A 1989 CAPLUS  
(2) Shanks; US 4978503 A 1990 CAPLUS  
(3) Sutherland; US 4775637 A 1988  
(4) Sutherland; US 4818710 A 1989

L12 ANSWER 12 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:446178 CAPLUS

DN 137:14966

ED Entered STN: 13 Jun 2002

TI General method for the covalent immobilisation of indicators in, or onto a support useful for the fabrication of optical sensors

IN Caputo, Giuseppe; Della, Ciana Leopoldo

PA Innosense S.R.L., Italy

SO Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G01N031-22

CC 79-2 (Inorganic Analytical Chemistry)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1213583	A1	20020612	EP 2000-126778	20001206
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	EP 2000-126778		20001206		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 1213583	ICM	G01N031-22
	IPCI	G01N0031-22 [ICM,6]
	IPCR	G01N0021-77 [I,A]; G01N0021-77 [I,C]; G01N0031-22 [I,A]; G01N0031-22 [I,C]
	ECLA	G01N021/77B; G01N031/22

AB The invention discloses a method for the covalent immobilization of indicator dyes in, or onto a support. The dyes can work in absorbance, reflectance or fluorescence mode. The dyed support is useful as the transducer element in an optical sensor. According to the invention, the indicator dye is dissolved or suspended in a solvent medium, optionally contg. electrolytes to control ionic strength and pH. Aq. formaldehyde is then added to the mixt. A support to be used as the sensing element in an optical sensor is added to the mixt. and stirred or shaken for a period of time at a temp. comprised between room temp. and 100.degree.. Suitable supports include inorg. and org. polymers with primary and/or secondary amino groups.

ST covalent immobilization indicator fabrication optical sensor

IT Metal alkoxides

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(alkali metal; general method for covalent immobilization of indicators in, or onto support useful for fabrication of optical sensors)

IT Alkali metal compounds

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(alkoxides; general method for covalent immobilization of indicators in, or onto support useful for fabrication of optical sensors)

IT \*\*\*Silanes\*\*\*

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(amino; general method for covalent immobilization of indicators in, or onto support useful for fabrication of optical sensors)

IT Glass substrates

Indicators

Mannich reaction

Optical sensors

Polymer-supported reagents

Reflection spectra

(general method for covalent immobilization of indicators in, or onto support useful for fabrication of optical sensors)

IT Alkali metal hydroxides

Polysiloxanes, processes

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(general method for covalent immobilization of indicators in, or onto support useful for fabrication of optical sensors)

IT Amines, processes

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

( \*\*\*silyl\*\*\* ; general method for covalent immobilization of indicators in, or onto support useful for fabrication of optical sensors)

IT Ceramics

(substrates; general method for covalent immobilization of indicators in, or onto support useful for fabrication of optical sensors)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 72-48-0, Alizarin 76-60-8, Bromocresol green 77-09-8, Phenolphthalein 81-88-9, Rhodamine B 115-39-9, Bromophenol blue 115-40-2, Bromocresol purple 493-52-7, Methyl red 531-53-3, Azure A 547-58-0, Methyl orange 548-62-9, Crystal violet 553-24-2, Neutral red 569-64-2, Malachite green 573-58-0, Congo red 587-98-4, Metanil yellow 632-99-5, Basic fuchsin 1733-12-6, Cresol red 2321-07-5, Fluorescein 2381-85-3, Nile blue 2538-85-4, Eriochrome blue black R 4430-20-0, Chlorophenol red 5423-07-4, Nitrazine yellow 6441-64-1, Brilliant yellow 34487-61-1, Phenol red sodium salt

RL: ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)

(general method for covalent immobilization of indicators in, or onto support useful for fabrication of optical sensors)

IT 60676-86-0, Vitreous silica 89800-07-7, Biodyne A 93356-75-3, Eupergit C 123263-21-8, LoProdyne 128808-29-7, Biodyne B

RL: ARU (Analytical role, unclassified); DEV (Device component use); ANST (Analytical study); USES (Uses)

(general method for covalent immobilization of indicators in, or onto support useful for fabrication of optical sensors)

IT 50-00-0, Formaldehyde, processes 124-09-4, 1,6-Diaminohexane, processes 13598-78-2D, Aminosilane, derivs. 58086-67-2 432544-96-2

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)

(general method for covalent immobilization of indicators in, or onto support useful for fabrication of optical sensors)

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Goldstein, S; US 4200110 A 1980 CAPLUS

(2) Kostov, Y; ANALYTICA CHIMICA ACTA 1993, V280(1), P15 CAPLUS

(3) Safavi; ANALYTICA CHIMICA ACTA 1996, V335, P227 CAPLUS

L12 ANSWER 13 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:150456 CAPLUS

DN 136:359326

ED Entered STN: 27 Feb 2002

TI Sensitive measurement of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* active substances by attenuated total reflection spectrometry with a trimethylsilane-modified glass slab optical waveguide

AU Umemura, Tomonari; Kasuya, Yuichi; Odake, Tamao; Tsunoda, Kin-Ichi

CS Department of Chemistry, Faculty of Engineering, Gunma University, Gunma, 376-8515, Japan

SO Analyst (Cambridge, United Kingdom) (2002), 127(1), 149-152

CODEN: ANALAO; ISSN: 0003-2654

PB Royal Society of Chemistry

DT Journal

LA English

CC 61-3 (Water)

Section cross-reference(s): 80

AB Attenuated total reflection spectrometry with a slab optical waveguide (SOWG) was developed as a rapid and sensitive measurement of total anionic surfactants by the \*\*\*methylene\*\*\* \*\*\*blue\*\*\* active substance (MBAS) method. A fused-SiO<sub>2</sub> sheet, used as a guiding layer, was modified with tri-Me \*\*\*silane\*\*\* (TMS) to ext. and conc. the MBASs on the SOWG surface. Based on preliminary studies of the adsorption behavior and visible ATR spectrum of MB on the modified SiO<sub>2</sub> surface, a detection wavelength of 600 nm was chosen for the sensitive measurement of anionic surfactants. With a MB concn. of 10 .mu.M in the measurement soln., the calibration curve for a typical anionic surfactant, Na

dodecylbenzenesulfonate, was linear up to 0.6 .mu.M and the detection limit was 0.07 .mu.M. The proposed method was applied to the detn. of total anionic surfactants in river water.

ST water analysis anionic surfactant \*\*\*methylene\*\*\* \*\*\*blue\*\*\* ;  
attenuated reflection spectrometry trimethylsilane glass optical waveguide

IT Surfactants  
(anionic; sensitive measurement of \*\*\*methylene\*\*\* \*\*\*blue\*\*\*  
active substances by attenuated total reflection spectrometry with a  
methylsilane-modified glass slab optical waveguide)

IT pH  
(effect of pH on the measurement of \*\*\*methylene\*\*\* \*\*\*blue\*\*\*  
active substances by attenuated total reflection spectrometry)

IT Optical waveguides  
Reflection spectra  
Reflection spectroscopy  
River water pollution  
(sensitive measurement of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* active  
substances by attenuated total reflection spectrometry with a  
methylsilane-modified glass slab optical waveguide)

IT 7732-18-5, Water, analysis  
RL: AMX (Analytical matrix); ANST (Analytical study)  
(sensitive measurement of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* active  
substances by attenuated total reflection spectrometry with a  
methylsilane-modified glass slab optical waveguide)

IT 151-21-3, Sodium dodecyl sulfate, analysis 25155-30-0, Sodium  
dodecylbenzenesulfonate  
RL: ANT (Analyte); ANST (Analytical study)  
(sensitive measurement of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* active  
substances by attenuated total reflection spectrometry with a  
methylsilane-modified glass slab optical waveguide)

IT 61-73-4  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(sensitive measurement of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* active  
substances by attenuated total reflection spectrometry with a  
methylsilane-modified glass slab optical waveguide)

IT 7487-88-9, Magnesium sulfate, analysis 7647-14-5, Sodium chloride,  
analysis 10043-52-4, Calcium chloride, analysis  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(sensitive measurement of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* active  
substances by attenuated total reflection spectrometry with a  
methylsilane-modified glass slab optical waveguide)

IT 75-77-4, Trimethyl chlorosilane, processes 871-92-1, Octyl  
\*\*\*silane\*\*\* 18623-11-5, Octadecyl \*\*\*silane\*\*\*  
RL: CPS (Chemical process); PEP (Physical, engineering or chemical  
process); PROC (Process)  
(sensitive measurement of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* active  
substances by attenuated total reflection spectrometry with a  
methylsilane-modified glass slab optical waveguide)

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Agudo, M; Analyst 1994, V119, P2097 CAPLUS
- (2) Alegret, S; Analyst 1994, V119, P2319 CAPLUS
- (3) Alonso, J; Anal Chim Acta 1995, V308, P115 CAPLUS
- (4) Barroso, S; Anal Chim Acta 1988, V206, P351
- (5) Cassella, R; Analyst 2000, V125, P1835 CAPLUS
- (6) del Valle, M; Analyst 1982, V54, P392
- (7) del Valle, M; Analyst 1988, V113, P1677 CAPLUS
- (8) Edmiston, P; J Phys Chem 1996, V100, P775 CAPLUS
- (9) Frenzel, W; Analyst 1988, V113, P1039 CAPLUS
- (10) Fuwa, K; Anal Chem 1984, V56, P1640 CAPLUS
- (11) Gerlache, M; Anal Chim Acta 1997, V349, P59 CAPLUS
- (12) Higgins, D; J Phys Chem 1991, V95, P6984 CAPLUS
- (13) Higuchi, K; Analyst 1980, V105, P768 CAPLUS
- (14) Hinoue, T; Bunseki Kagaku 1994, V43, P443 CAPLUS
- (15) Kamaya, M; Anal Chim Acta 1998, V362, P157 CAPLUS
- (16) Kawase, J; Anal Chem 1979, V51, P1640 CAPLUS
- (17) Kingston, D; J Chromatogr 1976, V116, P182 CAPLUS
- (18) Longwell, J; Analyst 1955, V80, P167 CAPLUS
- (19) Lukosz, W; Sens Actuators B 1997, V39, P316
- (20) Martinez-Barrachina, S; Anal Chem 1999, V71, P3684 CAPLUS
- (21) Matsuda, N; Chem Lett 1996, P105 CAPLUS
- (22) Motomizu, S; Anal Chem 1982, V54, P392 CAPLUS

(23) Patel, R; Analyst 1998, V123, P1691 CAPLUS  
 (24) Saavedra, S; Anal Chem 1990, V62, P2251 CAPLUS  
 (25) Saavedra, S; Langmuir 1991, V7, P995 CAPLUS  
 (26) Stephens, D; Anal Chem 1989, V61, P386 CAPLUS  
 (27) Tsunoda, K; Anal Chim Acta 1993, V276, P133 CAPLUS  
 (28) Tsunoda, K; Anal Chim Acta 1995, V299, P327 CAPLUS  
 (29) Tsunoda, K; Appl Spectrosc 1990, V44, P163 CAPLUS  
 (30) Tsunoda, K; Chem Lett 1995, P935 CAPLUS  
 (31) Tsunoda, K; Chem Lett 1996, P919 CAPLUS  
 (32) Waterbury, R; Anal Chim Acta 1997, V357, P99 CAPLUS  
 (33) Yoshimura, K; Analyst 1988, V113, P471 CAPLUS  
 (34) Zaporozhets, O; Analyst 1998, V123, P1583 CAPLUS

L12 ANSWER 14 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:138455 CAPLUS

DN 137:333596

ED Entered STN: 22 Feb 2002

TI Label-free DNA hybridization detection with molecular beacon immobilized in photopolymerized acrylamide gel microarray

AU Wang, Hong; Li, Jiong; Liu, Qunjun; Liu, Heping; Lu, Zuhong

CS National Laboratory of Molecular and Biomolecular Electronics, Southeast University, Nanjing, 210096, Peop. Rep. China

SO Proceedings of SPIE-The International Society for Optical Engineering (2001), 4601(Micromachining and Microfabrication Process Technology and Devices), 256-259

CODEN: PSISDG; ISSN: 0277-786X

PB SPIE-The International Society for Optical Engineering

DT Journal

LA English

CC 3-1 (Biochemical Genetics)

Section cross-reference(s): 9

AB Photopolymd. acrylamide gel microarray used to immobilize the mol. beacon for label free DNA hybridization detection is described in this paper. Polyacrylamide gel microarray was prepd. by UV photopolymn. of 4% acrylamide in 40% glycerol, 0.002% \*\*\*methylene\*\*\* \*\*\*blue\*\*\*, 0.012% TEMED and 0.1M phosphate buffer (PH=7) with a Relpel- \*\*\*silane\*\*\* pretreated quartz mask. This kind of three-dimensional gel microarray provides more than 100 times great immobilization capacity. The hybridization and other processes with it resemble a homogeneous liq. phase reaction rather than a heterogeneous liq.-solid interface reaction. The specially designed mol. beacons contain a 15 base loop sequence with 5 base pair stem, a 20 base thymine as spacer, a 5'-end amino group for immobilization, a fluorescein in the middle of the sequence as the fluorophore and a 3'-end DABCYL as the quencher. Between the 5'-end amino group and the stem, the 20 base thymine is used to minimize de-stability caused by 5'-end immobilization. Confocal microscope was used to investigate the fluorescence intensity of gel immobilized mol. beacon probes. After hybridization we can easily distinguish complementary and noncomplementary targets with gel-immobilized mol. beacon probes. Image anal. showed that the fluorescence intensity ratio of complementary to noncomplementary probes is great than 5. The potential applications of gel-immobilized mol. beacon microarray are mutation detection, pathogenic detection, etc. In a parallel, cost saving and label-free detection way.

ST DNA hybridization mol beacon immobilized acrylamide gel microarray

IT Nucleic acid hybridization

(DNA-DNA; label-free DNA hybridization detection with mol. beacon immobilized in photopolymd. acrylamide gel microarray)

IT DNA microarray technology

Immobilization, molecular or cellular

(label-free DNA hybridization detection with mol. beacon immobilized in photopolymd. acrylamide gel microarray)

IT DNA

RL: ANT (Analyte); ARG (Analytical reagent use); DEV (Device component use); ANST (Analytical study); USES (Uses)

(label-free DNA hybridization detection with mol. beacon immobilized in photopolymd. acrylamide gel microarray)

IT 9003-05-8

RL: DEV (Device component use); USES (Uses)

(label-free DNA hybridization detection with mol. beacon immobilized in photopolymd. acrylamide gel microarray)

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Chen, W; Anal Biochem 2000, V280, P166 CAPLUS
- (2) Edward, N; Nucleic Acid Res 1996, V24, P3142
- (3) Eun, A; Phytopathology 2000, V90, P269 CAPLUS
- (4) Kostrikis, L; Science 1998, V279, P1228 CAPLUS
- (5) Liu, X; Anal Biochem 2000, V283, P56 CAPLUS
- (6) Liu, X; Anal Chem 1999, V71, P5054 CAPLUS
- (7) Sokol, D; Proc Natl Acad Sci USA 1998, V95, P11538 CAPLUS
- (8) Steemers, F; Nat Biotech 2000, V18, P91 CAPLUS
- (9) Tyagi, S; Nat Biotech 1996, V14, P303 CAPLUS

L12 ANSWER 15 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:756418 CAPLUS

DN 136:280812

ED Entered STN: 17 Oct 2001

TI Additive for yellowing reduction of white alkyd paints

AU Li, Dan; You, Bo; Wu, Limin

CS Fudan University, Shanghai, 200433, Peop. Rep. China

SO Tuliao Gongye (2001), 31(8), 1-3

CODEN: TLKYD5; ISSN: 0253-4312

PB Huagongbu Tuliao Gongye Yanjiuso

DT Journal

LA Chinese

CC 42-5 (Coatings, Inks, and Related Products)

AB The causes leading to alkyd paint films yellowing were studied and the results showed that the presence of oxidn.-redn. initiator, pigment, \*\*\*silane\*\*\* coupling agent, photosensitizer, fluorescent brightening agent and antioxidant all affected the yellowing index of the films, and an optimum additive compn. to reduce yellowing contains: Silquest A-174 2-2.5%, \*\*\*methylen\*\*\* \*\*\*blue\*\*\* 10 ppm, fluorescent brightening agent 0.5%, Irganox 1010 or Irganox 1076 0.5%.

ST alkyd coating film additive yellowing reducing

IT Yellowing prevention

(agents; additive for yellowing redn. of white alkyd coatings)

IT Alkyd resins

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(fatty acid-based; additive for yellowing redn. of white alkyd coatings)

IT Paints

(solvent-based; additive for yellowing redn. of white alkyd coatings)

IT Discoloration prevention agents

(yellowing; additive for yellowing redn. of white alkyd coatings)

IT 2082-79-3, Irganox 1076 6683-19-8, Irganox 1010

RL: MOA (Modifier or additive use); USES (Uses)

(antioxidant; additive for yellowing redn. of white alkyd coatings)

IT 2530-85-0, Silquest A-174

RL: MOA (Modifier or additive use); USES (Uses)

(coupling agent; additive for yellowing redn. of white alkyd coatings)

IT 13463-67-7, Titanium dioxide, uses

RL: MOA (Modifier or additive use); USES (Uses)

(pigment/filler; additive for yellowing redn. of white alkyd coatings)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\*

RL: MOA (Modifier or additive use); USES (Uses)

(pigment; additive for yellowing redn. of white alkyd coatings)

L12 ANSWER 16 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:45948 CAPLUS

DN 134:104688

ED Entered STN: 19 Jan 2001

TI Silicate-based material suitable for holographic medium and optical articles and its manufacture

IN Katz, Howard Edan

PA Lucent Technologies Inc., USA

SO Eur. Pat. Appl., 10 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C03B008-02

ICS C03C014-00; C01B037-00

CC 57-1 (Ceramics)

Section cross-reference(s): 38, 73

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1069081	A2	20010117	EP 2000-305568	20000703
	EP 1069081	A3	20020109		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6423770	B1	20020723	US 1999-353898	19990715
	AU 2000071332	A5	20010130	AU 2000-71332	20000703
	JP 2001055508	A2	20010227	JP 2000-214299	20000714
PRAI	US 1999-353898	A	19990715		
	WO 2000-US40297	W	20000703		

# CLASS

	PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
	EP 1069081	ICM	C03B008-02
		ICS	C03C014-00; C01B037-00
		IPCI	C03B0008-02 [ICM,6]; C03C0014-00 [ICS,6]; C01B0037-00 [ICS,6]
		IPCR	C01B0037-00 [I,A]; C01B0037-00 [I,C]; C03B0019-12 [I,A]; C03B0019-12 [I,C]; C03C0014-00 [I,A]; C03C0014-00 [I,C]
	US 6423770	ECLA	C01B037/00; C03B019/12; C03C014/00
		IPCI	C08K0003-00 [ICM,7]
		IPCR	C01B0037-00 [I,A]; C01B0037-00 [I,C]; C03B0019-12 [I,A]; C03B0019-12 [I,C]; C03C0014-00 [I,A]; C03C0014-00 [I,C]
		NCL	524/492.000; 524/493.000
		ECLA	C01B037/00; C03B019/12; C03C014/00
	AU 2000071332	IPCR	A61F0009-02 [I,A]; A61F0009-02 [I,C]; G02C0011-00 [I,A]; G02C0011-00 [I,C]
	JP 2001055508	IPCI	C08L0083-02 [ICM,7]; C08J0003-24 [ICS,7]; C08J0003-28 [ICS,7]; C08J0005-00 [ICS,7]; C08K0003-34 [ICS,7]; C08K0005-00 [ICS,7]
		IPCR	C01B0037-00 [I,A]; C01B0037-00 [I,C]; C03B0019-12 [I,A]; C03B0019-12 [I,C]; C03C0014-00 [I,A]; C03C0014-00 [I,C]
AB	A silicate material, comprising a silicate domain and .gtoreq.1 substantially nonsilicate domains is described. The material is produced by mixing a templating mixt. with a pre-cured resin and .gtoreq.1 resin precursors. The templating mixt. comprises .gtoreq.1 surfactants, .gtoreq.1 alcs. and water. A pre-cured resin is formed by reacting .gtoreq.1 silicate resin precursors with water, and preferably in the presence of a co-solvent and a catalyst. The invention also includes a method for fabricating the silicate material, a holog. medium, an optical article, and a method for fabricating an optical article.		
ST	silicate material manuf template mixt resin holog; optical filter silicate material manuf template mixt resin; waveguide optical silicate material manuf template mixt resin		
IT	Heat treatment (120-130.degree.; manuf. of silicate-based material for holog. medium and optical articles)		
IT	Hydrocarbons, uses RL: NUU (Other use, unclassified); USES (Uses) (alicyclic, fluid exchange with; manuf. of silicate-based material for holog. medium and optical articles)		
IT	***Silanes*** RL: PEP (Physical, engineering or chemical process); PROC (Process) (alkoxy, silicate precursor; manuf. of silicate-based material for holog. medium and optical articles)		
IT	***Silanes*** RL: PEP (Physical, engineering or chemical process); PROC (Process) (alkylalkoxy, silicate precursor; manuf. of silicate-based material for holog. medium and optical articles)		
IT	Gases (controlled atm.; manuf. of silicate-based material for holog. medium and optical articles)		
IT	Solvents (cosolvents; manuf. of silicate-based material for holog. medium and optical articles)		
IT	Aromatic hydrocarbons, uses Esters, uses Ethers, uses		



RL: NUU (Other use, unclassified); USES (Uses)  
 (fluid exchange with; manuf. of silicate-based material for holog. medium and optical articles)

IT Hydrocarbons, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (halo; manuf. of silicate-based material for holog. medium and optical articles)

IT Molding  
 (injection; manuf. of silicate-based material for holog. medium and optical articles)

IT Pore  
 (interconnected; manuf. of silicate-based material for holog. medium and optical articles)

IT Annealing  
 Catalysts  
 Coating process  
 Dielectric constant  
 Electric conductors  
 Electric insulators  
 Extrusion, nonbiological  
 Holography  
 Light scattering  
 Molding  
 Molds (forms)  
 Optical filters  
 Optical waveguides  
 Printing (impact)  
 Refractive index  
 Semiconductor materials  
 Surfactants  
 (manuf. of silicate-based material for holog. medium and optical articles)

IT Silicates, preparation  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (manuf. of silicate-based material for holog. medium and optical articles)

IT Alcohols, processes  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (manuf. of silicate-based material for holog. medium and optical articles)

IT Glass, processes  
 RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)  
 (manuf. of silicate-based material for holog. medium and optical articles)

IT Crosslinking  
 (photochem.; manuf. of silicate-based material for holog. medium and optical articles)

IT Photoimaging materials  
 (photopolymerizable; manuf. of silicate-based material for holog. medium and optical articles)

IT Resins  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (pre-cured and precursors; manuf. of silicate-based material for holog. medium and optical articles)

IT Porous materials  
 (silicate-based material; manuf. of silicate-based material for holog. medium and optical articles)

IT Materials processing  
 (templates, mixt.; manuf. of silicate-based material for holog. medium and optical articles)

IT 67-63-0, Isopropanol, uses 75-05-8, Acetonitrile, uses  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (curing with; manuf. of silicate-based material for holog. medium and optical articles)

IT 76-05-1, uses 7647-01-0, Hydrochloric acid, uses 7697-37-2, Nitric acid, uses 10026-04-7, Silicon chloride (SiCl<sub>4</sub>) 10035-10-6, Hydrogen bromide, uses 10294-34-5, Boron chloride (BCl<sub>3</sub>)  
 RL: CAT (Catalyst use); USES (Uses)  
 (manuf. of silicate-based material for holog. medium and optical articles)

IT 67-56-1, Methanol, uses 125051-32-3, CGI-784

RL: MOA (Modifier or additive use); USES (Uses)  
 (manuf. of silicate-based material for holog. medium and optical articles)

IT 25917-35-5, Hexanol  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (manuf. of silicate-based material for holog. medium and optical articles)

IT 57-09-0, Cetyltrimethylammonium bromide 681-84-5, Tetramethoxy  
 \*\*\*silane\*\*\* 7732-18-5, Water, processes  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (manuf. of silicate-based material for holog. medium and optical articles)

IT 108-88-3, Toluene, uses 48145-04-6, Phenoxy ethyl acrylate  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (nonpolar solvent; manuf. of silicate-based material for holog. medium and optical articles)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 105-59-9, n-Methyl diethanol  
 amine 11121-48-5, Rose bengal 16423-68-0, Erythrosine 17372-87-1,  
 Eosin  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (photoinitiator; manuf. of silicate-based material for holog. medium and optical articles)

IT 78-10-4, Tetraethoxysilane 998-30-1, Triethoxysilane 1185-55-3,  
 Methyltrimethoxysilane  
 RL: PEP (Physical, engineering or chemical process); PROC (Process)  
 (silicate precursor; manuf. of silicate-based material for holog. medium and optical articles)

IT 60354-74-7P  
 RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); PREP (Preparation); PROC (Process)  
 (silicate precursor; manuf. of silicate-based material for holog. medium and optical articles)

IT 108-93-0, Cyclohexanol, uses 818-61-1  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (solvent exchange with; manuf. of silicate-based material for holog. medium and optical articles)

IT 111-87-5, Octanol, uses 9002-92-0, Brij30  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (surfactant mixt.; manuf. of silicate-based material for holog. medium and optical articles)

IT 112-60-7D, Tetra ethylene glycol, Mono dodecyl ether 123-03-5,  
 Cetylpyridinium chloride  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (surfactant; manuf. of silicate-based material for holog. medium and optical articles)

L12 ANSWER 17 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:457933 CAPLUS

DN 131:88661

ED Entered STN: 27 Jul 1999

TI Dendrimer-based nanoscopic sponges and metal composites

IN Balogh, Lajos; Deleuze-Jallouli, Agrnes M.; Dvornic, Petar R.; Owen, Michael J.; Perz, Susan Victoria; Spindler, Ralph

PA Dow Corning Corporation, USA

SO Eur. Pat. Appl., 17 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM C08L101-02

CC 37-6 (Plastics Manufacture and Processing)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 928813	A1	19990714	EP 1999-100318	19990112
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 5938934	A	19990817	US 1998-6573	19980113
	JP 11263837	A2	19990928	JP 1999-6781	19990113
PRAI	US 1998-6573	A	19980113		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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EP 928813 ICM C08L101-02  
 IPCI C08L0101-02 [ICM,6]  
 IPCR C08G0083-00 [I,A]; C08G0083-00 [I,C]; C08L0101-00 [I,A]; C08L0101-00 [I,C]  
 ECLA C08G083/00D; C08L101/00B  
 US 5938934 IPCI C02F0001-42 [ICM,6]  
 IPCR C08G0083-00 [I,A]; C08G0083-00 [I,C]; C08L0101-00 [I,A]; C08L0101-00 [I,C]  
 NCL 210/688.000; 210/681.000; 210/692.000; 210/912.000; 424/DIG.016; 524/083.000; 524/190.000; 524/413.000; 524/430.000; 524/440.000; 525/420.000; 525/431.000; 525/477.000; 525/540.000; 977/788.000  
 ECLA C08G083/00D; C08L101/00B  
 JP 11263837 IPCI C08G0069-48 [ICM,6]; C08G0077-455 [ICS,6]

AB The title compns. comprise (i) a metal cation, (ii) a metal salt, (iii) a metal oxide, (iv) an elemental metal, (v) a water-sol. org. mol., or (vi) a water sol. organometallic mol., adsorbed, absorbed or encapsulated in a dendrimer-based network having hydrophilic and hydrophobic nanoscopic domains, the dendrimer-based network comprising a crosslinked product of a radially layered copolydendrimer (e.g., PANAM) having a hydrophilic interior and a hydrophobic organosilicon exterior terminated with reactive end groups, the copolydendrimer being prep'd. by reacting a hydrophilic dendrimer having -NH<sub>2</sub> surface groups, with an organosilicon comp'd., in the presence of a solvent. The dendritic polymer based networks are capable of performing as nanoscopic sponges for electrophilic guest moieties. As a result, these networks yield nanoscopic organo-inorg. composites which contain organosilicon units as an integral part of their covalently bonded matrix.

ST PANAM dendrimer silicone modified network nanoscopic sponge

IT Antibacterial agents  
 Catalysts  
 Drugs  
 Dyes  
 Electric conductors  
 Encapsulation  
 Fluorescent substances  
 Liquid crystals  
 Nonlinear optical materials  
 Phosphorescent substances  
 Photosensitizers (pharmaceutical)  
 Pigments, nonbiological  
 Surfactants  
 (dendrimer-based nanoscopic sponges and metal composites)

IT Dendritic polymers  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (dendrimer-based nanoscopic sponges and metal composites)

IT Polyamines  
 Polyamines  
 Polyamines  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamide-, dendrimers, reaction products with acrylic \*\*\*silanes\*\*\*  
 ; dendrimer-based nanoscopic sponges and metal composites)

IT Dendritic polymers  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamide-polyamines, reaction products with acrylic \*\*\*silanes\*\*\*  
 ; dendrimer-based nanoscopic sponges and metal composites)

IT Polyamides, preparation  
 Polyamides, preparation  
 Polyamides, preparation  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (polyamine-, dendrimers, reaction products with acrylic \*\*\*silanes\*\*\*  
 ; dendrimer-based nanoscopic sponges and metal composites)

IT 13732-00-8DP, (3-Acryloxypropyl)methyldimethoxysilane, reaction products with dendrimers 16709-86-7DP, Chloromethyldimethylvinylsilane, reaction products with dendrimers 74793-14-9DP, Iodomethyldimethylvinylsilane, reaction products with dendrimers 205180-56-9DP, reaction products with dendrimers  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)  
 (dendrimer-based nanoscopic sponges and metal composites)  
 IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 493-52-7, Methyl red  
 1306-23-6, Cadmium sulfide, miscellaneous 1317-40-4, Copper (II) sulfide  
 7440-06-4, Platinum, miscellaneous 7440-22-4, Silver, miscellaneous  
 7440-50-8, Copper, miscellaneous 7440-57-5, Gold, miscellaneous  
 14701-21-4, miscellaneous 14701-22-5, Ni2+, miscellaneous 15158-11-9,  
 Cu2+, miscellaneous 15438-31-0, Fe2+, miscellaneous 16065-89-7, Rh3+,  
 miscellaneous 16065-91-1, Au3+, miscellaneous 16812-54-7, Nickel (II)  
 sulfide 17493-86-6, CuI+, miscellaneous 20074-52-6, Fe3+,  
 miscellaneous 22537-48-0, Cd2+, miscellaneous  
 RL: MSC (Miscellaneous)  
 (dendrimer-based nanoscopic sponges and metal composites)  
 IT 26937-01-9DP, PAMAM, reaction products with acrylic \*\*\*silanes\*\*\*  
 RL: IMF (Industrial manufacture); TEM (Technical or engineered material  
 use); PREP (Preparation); USES (Uses)  
 (dendritic; dendrimer-based nanoscopic sponges and metal composites)

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

- (1) Hedstrand, D; US 5393795 A 1995 CAPLUS
- (2) Nycomed Salutar Inc; WO 9306868 A 1993 CAPLUS
- (3) Teroson; EP 0342411 A 1989 CAPLUS
- (4) Winnik, F; US 5120361 A 1992 CAPLUS

L12 ANSWER 18 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:960361 CAPLUS

DN 123:334324

ED Entered STN: 05 Dec 1995

TI Monitoring method of stain solution for particle analysis and calibration  
 method of particle analysis.

IN Miki, Taki; Yasuaki, Kojima

PA Hitachi, Ltd., Japan

SO Eur. Pat. Appl., 14 pp.

CODEN: EPXXDW

DT Patent

LA English

IC ICM G01N033-483

ICS G01N015-14

CC 9-4 (Biochemical Methods)

Section cross-reference(s): 14

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 678742	A2	19951025	EP 1995-105446	19950411
	EP 678742	A3	19960131		
	EP 678742	B1	20020724		
	R: DE, FR, GB				
	US 5728582	A	19980317	US 1995-423213	19950417
	JP 08005543	A2	19960112	JP 1995-92537	19950418
	JP 3261918	B2	20020304		
PRAI	JP 1994-82838	A	19940421		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 678742	ICM	G01N033-483
	ICS	G01N015-14
	IPCI	G01N0033-483 [ICM,6]; G01N0015-14 [ICS,6]
	IPCR	G01N0015-14 [I,A]; G01N0015-14 [I,C]; G01N0033-50 [I,A]; G01N0033-50 [I,C]
	ECLA	G01N015/14H1; G01N033/50D
US 5728582	IPCI	G01N0031-22 [ICM,6]
	IPCR	G01N0015-14 [I,A]; G01N0015-14 [I,C]; G01N0033-50 [I,A]; G01N0033-50 [I,C]
	NCL	436/010.000; 436/008.000
	ECLA	G01N015/14H1; G01N033/50D
JP 08005543	IPCI	G01N0015-14 [ICM,6]; G01N0015-02 [ICS,6]; G01N0033-49 [ICS,6]
	ECLA	G01N015/14H1

AB Sample fluids, e.g., blood or urine, contg. biol. particles (e.g., sediment, bacteria, cells) are mixed with a stain soln., and the stained biol. particles are fed into a flow-through cell. Still-frame images of the particles flowing through the cell are photographed by a television

camera and are processed for particle classification. Prior to such processing of biol. particle images, a calibration coeff. is calcd. using ref. particles. The ref. particles comprise particles such as polystyrene resin which contain functional radicals such as sulfonic radicals and are stained by mixing a suspended fluid contg. these ref. particles with the stain soln. The calibration coeff. is calcd. according to information on stain in the still frame images, and is used to calibrate biol. particle data.

ST biol particle analysis stain monitoring calibration; flow cell particle analysis body fluid; television monitoring stain ref biol particle; body fluid sediment particle analysis stain

IT Amino group  
Bacteria  
Blood analysis  
Body fluid  
Carboxyl group  
Cell  
Erythrocyte  
Hydroxyl group  
Leukocyte  
Particles  
Staining, biological  
Stains, biological  
Television  
Urine analysis  
(monitoring of stain soln. for biol. particle anal. and calibration method)

IT Quaternary ammonium compounds, analysis  
\*\*\*Silanes\*\*\*  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(monitoring of stain soln. for biol. particle anal. and calibration method)

IT Functional groups  
(chloromethyl, monitoring of stain soln. for biol. particle anal. and calibration method)

IT Cytometry  
(flow, monitoring of stain soln. for biol. particle anal. and calibration method)

IT Functional groups  
(sulfo, monitoring of stain soln. for biol. particle anal. and calibration method)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 16423-68-0, Erythrosin B  
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)  
(monitoring of stain soln. for biol. particle anal. and calibration method)

IT 100-42-5D, Styrene, copolymers 106-99-0D, Butadiene, copolymers  
1321-74-0D, Divinylbenzene, copolymers 9003-53-6, Polystyrene  
9003-55-8, Butadiene-styrene copolymer 9003-70-7, Divinylbenzene-styrene copolymer 9017-21-4D, Polyvinyltoluene, copolymers  
RL: ARU (Analytical role, unclassified); ANST (Analytical study)  
(monitoring of stain soln. for biol. particle anal. and calibration method)

L12 ANSWER 19 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1995:902719 CAPLUS  
DN 123:290054  
ED Entered STN: 08 Nov 1995  
TI Colored shiny opaque materials with a thin layer of colored glass gel formed by sol-gel process  
IN Sakai, Kazuo; Ueda, Tsutomu  
PA Mori Sadayoshi, Japan  
SO Jpn. Kokai Tokkyo Koho, 5 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C09C003-06  
ICS C09C001-24; C09C001-30; C09C001-46; C09C001-62; C09C001-64  
CC 42-13 (Coatings, Inks, and Related Products)  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07207186	A2	19950808	JP 1994-39020	19940124

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 07207186	ICM	C09C003-06
	ICS	C09C001-24; C09C001-30; C09C001-46; C09C001-62; C09C001-64
	IPCI	C09C0003-06 [ICM,6]; C09C0001-24 [ICS,6]; C09C0001-30 [ICS,6]; C09C0001-46 [ICS,6]; C09C0001-62 [ICS,6]; C09C0001-64 [ICS,6]

AB The title materials are formed by coating color-contg. metal oxide gel on the surface of Al flakes, glass flakes, bronze powder, graphite, iron oxide flakes, metal oxide-coated iron oxide, etc. C.I. Pigment Red 254 1, TSL8311 \*\*\*silane\*\*\* coupler 0.2, Et cellulose 0.8, and iso-PROH 170 g were milled using 0.5-mm zircon beads to obtain a coating soln. which was mixed with Si(OEt)<sub>4</sub> 12, HCl 0.15, water 12, and EtOH 14 g, poured into an Al paste, mixed well, and heated at 90.degree. for 3 h to obtain a paste of red flakes with silvery luster.

ST pigment coating aluminum flake luster; sol gel process coating

IT Pigments

(colored shiny opaque materials with a thin layer of colored glass gel formed by sol-gel process)

IT Carbon black, uses

Glass, nonoxide

RL: TEM (Technical or engineered material use); USES (Uses)

(colored shiny opaque materials with a thin layer of colored glass gel formed by sol-gel process)

IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 78-10-4, Tetraethyl silicate  
81-88-9, Rhodamine B 147-14-8, C.I. Pigment Blue 15 682-01-9,  
Tetrapropyl silicate 1047-16-1, C.I. Pigment Violet 19 1328-53-6, C.I.  
Pigment Green 7 1332-37-2, Iron oxide, uses 5567-15-7, C.I. Pigment  
Yellow 83 7429-90-5, Aluminum, uses 7782-42-5, Graphite, uses  
12597-70-5, Bronze 84632-65-5, C.I. Pigment Red 254

RL: TEM (Technical or engineered material use); USES (Uses)

(colored shiny opaque materials with a thin layer of colored glass gel formed by sol-gel process)

L12 ANSWER 20 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:620578 CAPLUS

DN 121:220578

ED Entered STN: 29 Oct 1994

TI Sensor membrane of an optical sensor for the determination of a physical or chemical parameter of a sample

IN Klimant, Ingo; Wolfbeis, Otto S.; Leiner, Marco Jean Pierre; Karpf, Marco Jean Pierre; Karpf, Hellfried; Kovacs, Barna

PA AVL Medical Instruments AG, Switz.

SO Eur. Pat. Appl., 8 pp.

CODEN: EPXXDW

DT Patent

LA German

IC ICM G01N021-77

CC 79-2 (Inorganic Analytical Chemistry)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 578630	A1	19940112	EP 1993-890131	19930630
EP 578630	B1	19960221		
R: AT, DE, FR, GB				
AT 134443	E	19960315	AT 1993-890131	19930630
JP 06174642	A2	19940624	JP 1993-169297	19930708
PRAI AT 1992-1409	A	19920709		

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 578630	ICM	G01N021-77
	IPCI	G01N0021-77 [ICM,5]
	IPCR	C09K0011-06 [I,A]; C09K0011-06 [I,C]; G01N0021-77 [I,A]; G01N0021-77 [I,C]; G01N0031-22 [I,A]; G01N0031-22 [I,C]
	ECLA	C09K011/06; G01N021/77B; G01N031/22
AT 134443	IPCI	G01N0021-77 [ICM,6]
	IPCR	G01N0021-77 [I,A]; G01N0021-77 [I,C]

JP 06174642 IPCI G01N0021-77 [ICM,5]; G01N0021-64 [ICS,5]

AB In a sensor membrane contg. an indicator homogeneously immobilized in a polymer matrix, comprising a cationic or anionic dye mol. and .gtoreq.1 counter ion, the counter ion is derived from a compd. which contains an ionic group and (a) an oligomeric residue of the monomer forming the polymer matrix; (b) long-chain alkyl or alkylene groups; or (c) \*\*\*silyl\*\*\* groups; the counter ion has phys.-chem. properties matching those of the polymer matrix, and the dye mol. is coupled to the polymer matrix by the counter ion.

ST membrane optical sensor; dye counter ion indicator optical sensor

IT pH  
(detn. of, optical sensor membranes for)

IT Membranes  
(for optical sensors, contg. dye-counter ion indicators)

IT Rubber, silicone, uses  
RL: DEV (Device component use); USES (Uses)  
(membranes from, contg. dye-counter ion indicators, for optical sensors)

IT Sensors  
(optical, membrane for, contg. dye-counter ion indicators)

IT 124-38-9, Carbon dioxide, analysis 7446-09-5, Sulfur dioxide, analysis 7664-41-7, Ammonia, analysis 7722-84-1, Hydrogen peroxide, analysis 7782-44-7, Oxygen, analysis 12408-02-5, Hydrogen ion, analysis 14127-61-8, Calcium(2+), analysis 14280-50-3, Lead(2+), analysis 14797-55-8, Nitrate, analysis 16637-16-4, Uranyl ion (UO22+) 16887-00-6, Chloride, analysis 17341-24-1, Lithium(1+), analysis 17341-25-2, Sodium(1+), analysis 22537-22-0, Magnesium(2+), analysis 22537-39-9, Strontium(2+), analysis 22537-48-0, Cadmium(2+), analysis 22537-56-0, Thallium(1+), analysis 24203-36-9, Potassium(1+), analysis  
RL: ANT (Analyte); ANST (Analytical study)  
(detn. of, optical sensor membranes for)

IT 89935-39-7 158273-63-3 158273-64-4  
RL: ANST (Analytical study)  
(indicator, membranes contg., for optical sensors)

IT 61-73-4D, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\*, complexes with alkyl- or alkylenesulfonates 81-88-9D, Rhodamine B, functionalized with ionophors, complexes with alkyl- or alkyleneammonium 115-40-2D, Bromocresol purple, complexes with alkyl- or alkyleneammonium 130-95-0D, Quinine, complexes with alkyl- or alkylenesulfonates 522-75-8D, Thioindigo, sulfo, complexes with alkyl- or alkyleneammonium 1461-15-0D, Calcein, complexes with alkyl- or alkyleneammonium 2001-95-8D, Valinomycin, reaction product with Rhodamine B, complexes with alkyl- or alkyleneammonium 58801-34-6D, ETH 1001, reaction product with Rhodamine B, complexes with alkyl- or alkyleneammonium 58821-96-8D, ETH 149, reaction product with Rhodamine B, complexes with alkyl- or alkyleneammonium 61183-76-4D, ETH 227, reaction product with Rhodamine B, complexes with alkyl- or alkyleneammonium 70268-36-9D, ETH 1907, reaction product with Rhodamine B, complexes with alkyl- or alkyleneammonium 75513-72-3D, ETH 1117, reaction product with Rhodamine B, complexes with alkyl- or alkyleneammonium  
RL: ANST (Analytical study)  
(indicators, membranes contg., for optical sensors)

IT 9002-86-2, Polyvinyl chloride  
RL: DEV (Device component use); USES (Uses)  
(membranes from, contg. dye-counter ion indicators, for optical sensors)

IT 12408-02-5  
RL: PRP (Properties)  
(pH, detn. of, optical sensor membranes for)

L12 ANSWER 21 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1992:618137 CAPLUS

DN 117:218137

ED Entered STN: 28 Nov 1992

TI Coloring of glass by thin films

AU Atkarskaya, A. B.; Borul'ko, V. I.; Goikhman, V. Yu.; Dudnik, T. A.; Maricheva, L. I.; Popovich, S. A.; Yakubets, L. V.; Mukinets, I. V.

CS Russia

SO Stroitel'nye Materialy i Konstruktsii (1991), (4), 11-12  
CODEN: SMKOD5; ISSN: 0136-7773

DT Journal

LA Russian

CC 57-1 (Ceramics)  
 AB Coloring of glass sheets using thin SiO<sub>2</sub> and TiO<sub>2</sub> films and by using methyl red and violet, brilliant green, bromophenol red, chlorophenol red, thymol \*\*\*blue\*\*\*, bromocresol purple, and \*\*\*methylene\*\*\*  
 \*\*\*blue\*\*\* is reported. The optimum pH (1.2-6.8) was dependent on the dye nature. The SiO<sub>2</sub> film was prep'd. by hydrolysis of tetramethoxy  
 \*\*\*silane\*\*\*. The SiO<sub>2</sub> film had no effect on the light reflection and transmittance. The TiO<sub>2</sub> film increased the glass reflectance by 40%.  
 ST glass coloring silica titania film  
 IT Glass, oxide  
 RL: USES (Uses)  
 (coloring of, dyes and silica and titania films in)  
 IT 7631-86-9, Silica, uses 13463-67-7, Titania, uses  
 RL: USES (Uses)  
 (coatings, glass coloring with dyes and)  
 IT 61-73-4, \*\*\*Methylene\*\*\*, \*\*\*blue\*\*\* 76-61-9, Thymol blue  
 115-40-2, Bromocresol purple 493-52-7, Methyl red 633-03-4, Brilliant green 2800-80-8, Bromophenol red 4430-20-0, Chlorophenol red  
 8004-87-3, Methyl violet  
 RL: USES (Uses)  
 (in coloring of glass by thin films)

L12 ANSWER 22 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1990:120715 CAPLUS  
 DN 112:120715  
 ED Entered STN: 31 Mar 1990  
 TI Coating compositions containing composite pigments  
 IN Une, Hiroshi; Mitani, Katsuo  
 PA Tokuyama Soda Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 21 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM C09D007-12  
 ICS C08K009-02; C09C003-10  
 CC 42-6 (Coatings, Inks, and Related Products)  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01172476	A2	19890707	JP 1987-329825	19871228
PRAI	JP 1987-329825		19871228		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 01172476	ICM	C09D007-12
	ICS	C08K009-02; C09C003-10
	IPCI	C09D007-12 [ICM,4]; C08K009-02 [ICS,4]; C09C003-10 [ICS,4]

AB Coating compns. of excellent pigment dispersion contain synthetic resins, coating aids, and a composite pigment [av. particle diam. a 50.0 .mu.m, particle dispersion value (definition given) >80%] comprising an inorg. core, dye or dye-inorg. compd. color layer, and optionally, a fixation coating layer of a \*\*\*silane\*\*\* or an organometallic compd. or a mixt. of either of these 2 latter compds. and a dye in a smaller amt. than in the color layer. A pigment (av. particle diam. 3.24 .mu.m, particle dispersion value 94.3%) was prep'd. comprising SiO<sub>2</sub> core, 1.2% Diacryl Red MS-N dye layer, and PhSi(OEt)<sub>3</sub> surface treatment. A compn. from phenolic novolak 20, drying oil 20, and this composite pigment 60% provided coatings with excellent lightfastness.

ST inorg org composite pigment coating; phenolic resin coating composite pigment; silica composite pigment coating; \*\*\*silane\*\*\* phenyldiethoxy composite pigment coating

IT Coupling agents  
 (inorg.-org. composite pigments treated with, for coatings)

IT Pigments  
 (manuf. of lightfast inorg.-org. two-layered composite, for coatings)

IT 9003-20-7, Poly(vinyl acetate) 9003-22-9, Vinyl acetate-vinyl chloride copolymer 9003-55-8, Butadiene-styrene copolymer  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (coatings, water-thinned, composite pigments for)

IT 546-93-0, Magnesium carbonate 1314-23-4, Zirconia, uses and miscellaneous 1344-28-1, Alumina, uses and miscellaneous 7631-86-9,



Silica, uses and miscellaneous 13463-67-7, Titania, uses and miscellaneous  
 RL: USES (Uses)  
 (cores, in composite pigments, for coatings)  
 IT 78-10-4, Tetraethylsilicate 1071-76-7, Tetrabutyl zirconate 2269-22-9  
 5593-70-4  
 RL: USES (Uses)  
 (hydrolyzers of, for manuf. of cores for composite pigments)  
 IT 61-73-4, \*\*\*Methylene\*\*\* \*\*\*blue\*\*\* 569-64-2 573-58-0, Congo  
 red 12224-27-0, Mikawhite ATN 12227-55-3, C.I. Solvent Red 122  
 12237-24-0, Oleosol fast blue GL 56509-74-1, Diacryl Red MS-N  
 116134-22-6, Dia Cotton Red GS 116134-55-5, Sumiacryl Red N-G  
 116134-56-6, Sumifix blue RSL 125054-01-5, Mikacion Blue LGS  
 RL: USES (Uses)  
 (inorg.-org. composite pigments contg., lightfast, for coatings)  
 IT 75-77-4, Trimethylchlorosilane, uses and miscellaneous 75-78-5,  
 Dimethyldichlorosilane 144-79-6 780-69-8, Phenyltriethoxysilane  
 999-97-3, Hexamethyldisilazane 1825-62-3, Trimethylethoxysilane  
 5314-55-6, Ethyltrimethoxysilane 14049-36-6, Chlorotrifluorosilane  
 61417-52-5 61417-55-8 74428-80-1 87133-45-7 125063-23-2  
 RL: USES (Uses)  
 (inorg.-org. composite pigments treated with, for coatings)

L12 ANSWER 23 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1988:226903 CAPLUS  
 DN 108:226903  
 ED Entered STN: 24 Jun 1988  
 TI Manufacture of (meth)acrylate ester for use in dental materials  
 IN Reiners, Juergen; Podszun, Wolfgang; Winkel, Jens  
 PA Bayer A.-G., Fed. Rep. Ger.  
 SO Ger. Offen., 14 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 IC ICM C07C125-077  
 ICS C07C069-54; A61K006-08; C08F020-36; C08F020-26  
 CC 63-7 (Pharmaceuticals)  
 Section cross-reference(s): 35

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3703080	A1	19880128	DE 1987-3703080	19870203
	EP 254950	A2	19880203	EP 1987-110144	19870714
	EP 254950	A3	19880921		
	EP 254950	B1	19911016		
	R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
	AT 68468	E	19911115	AT 1987-110144	19870714
	ES 2026870	T3	19920516	ES 1987-110144	19870714
	JP 63035542	A2	19880216	JP 1987-181284	19870722
	JP 2588534	B2	19970305		
	JP 08245512	A2	19960924	JP 1996-67439	19960229
PRAI	DE 1986-3625203	A1	19860725		
	DE 1987-3703080	A	19870203		
	EP 1987-110144	A	19870714		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
DE 3703080	ICM	C07C125-077
	ICS	C07C069-54; A61K006-08; C08F020-36; C08F020-26
	IPCI	C07C0125-077 [ICM,4]; C07C0069-54 [ICS,4]; A61K0006-08 [ICS,4]; C08F0020-36 [ICS,4]; C08F0020-26 [ICS,4]
	IPCR	A61K0006-02 [I,C]; A61K0006-083 [I,A]; A61K0006-09 [I,A]; C08F0022-00 [I,C]; C08F0022-10 [I,A]
EP 254950	IPCI	C07C0069-54 [ICM,4]; C07C0125-077 [ICS,4]; A61K0006-08 [ICS,4]; C08F0020-28 [ICS,4]; C07C0067-08 [ICS,4]; C08G0018-10 [ICS,4]
	IPCR	A61K0006-02 [I,C]; A61K0006-083 [I,A]; A61K0006-09 [I,A]; C08F0022-00 [I,C]; C08F0022-10 [I,A]
AT 68468	IPCI	C07C0069-54 [ICM,5]; C07C0271-06 [ICS,5]; A61K0006-08 [ICS,5]; C08F0020-28 [ICS,5]; C07C0067-08 [ICS,5]; C08G0018-10 [ICS,5]
	IPCR	A61K0006-02 [I,C]; A61K0006-08 [I,A]; C07C0067-00

[I,C]; C07C0067-08 [I,A]; C07C0069-00 [I,C];  
C07C0069-54 [I,A]; C07C0271-00 [I,C]; C07C0271-06  
[I,A]; C08F0020-00 [I,C]; C08F0020-28 [I,A];  
C08G0018-00 [I,C]; C08G0018-10 [I,A]  
ES 2026870 IPCI C07C0069-54 [ICM,5]; C07C0271-06 [ICS,5]; A61K0006-08  
[ICS,5]; C08F0020-28 [ICS,5]; C07C0067-08 [ICS,5];  
C08G0018-10 [ICS,5]  
JP 63035542 IPCI C07C0069-54 [ICM,4]; A61K0006-08 [ICS,4]; C07C0125-06  
[ICS,4]  
IPCR A61K0006-02 [I,C]; A61K0006-083 [I,A]; A61K0006-09  
[I,A]; C08F0022-00 [I,C]; C08F0022-10 [I,A]  
JP 08245512 IPCI C07C0069-54 [ICM,6]; A61K0006-083 [ICS,6]; C07C0271-22  
[ICS,6]; C08F0020-28 [ICS,6]; C08F0020-36 [ICS,6]

AB New (meth)acrylate esters are prep'd. by the reaction of polyols with  
(meth)acrylic acid, (meth)acrylic acid derivs. or isocyanate group-contg.  
(meth)acrylates. These compds. can be used as photo-polymerizable dental  
materials. The reaction product of 1 mol pentaerythritol, and 4.9 mol  
propylene oxide, was dissolved in 300 mM toluene, p-toluenesulfonic acid  
1.5, 2,6-di-tert-butyl-4-methylphenol 0.064, \*\*\*methylene\*\*\*  
\*\*\*blue\*\*\* 0.45, and methacrylic acid 103.2 g added. The mixt. was  
bubbled with air and heated for 40 h at 110-120.degree., forming a  
methacrylate ester intermediate. This intermediate (18.3 g) was dissolved  
in the 50 mL dried CHCl<sub>3</sub>, 0.02 g ionol and 0.1 g di-Bu Sn diborate added,  
and 27 g 2-isocyanatoethyl methacrylate slowly dripped in. The mixt. was  
stirred at 50.degree. for .apprx.150 h, and the methacrylate-substituted  
polyurethane isolated as a viscous liq. Artificial teeth were prep'd. from  
60 parts of a monomer mixt., as triethylene glycol dimethacrylate 45, the  
methacrylate-substituted polyurethane 55, dibenzoyl peroxide 1, and 5%  
3-methacryloxypropyltrimethoxysilane-silanized highly disperse silica  
40 parts which had been thoroughly mixed, was poured into small tooth mold  
and cured for 6 min at 130.degree., producing plastic dentures having high  
abrasion resistance.

ST methacrylate polyurethane prepn dental material  
IT Coating materials  
(for teeth, polyurethane methacrylates as, manuf. of)  
IT Dental materials and appliances  
(polyurethane methacrylate esters for, manuf. of)  
IT Dental materials and appliances  
(dentures, polyurethane methacrylate esters for, manuf. of)  
IT Dental materials and appliances  
(fillings, polyurethane methacrylate esters for, manuf. of)  
IT Urethane polymers, biological studies  
RL: BIOL (Biological study)  
(methacrylates, manuf. of, for dental materials)  
IT 77-58-7, Dibutyltin dilaurate  
RL: CAT (Catalyst use); USES (Uses)  
(catalysts, in manuf. of polyurethane methacrylate dental materials)  
IT 109-16-0DP, Triethyleneglycoldimethacrylate, polymers with methacrylate  
ester urethanes 30674-80-7DP, 2-Isocyanatoethyl methacrylate, urethane  
with propoxylated pentaerythritol methacrylate esters, polymers with  
triethylene glycol dimethacrylate  
RL: PREP (Preparation)  
(prepn. of, for dental materials)  
IT 75-56-9DP, Propylene oxide, reaction products with pentaerythritol, esters  
with methacrylic acid 79-41-4DP, Methacrylic acid, esters with  
propoxylated pentaerythritol, urethane with isocyanatoethyl methacrylate  
115-77-5DP, Pentaerythritol, reaction products with propylene oxide,  
esters with methacrylic acid  
RL: PREP (Preparation)  
(prepn. of, for polyurethane methacrylate dental materials)  
IT 7631-86-9, biological studies  
RL: BIOL (Biological study)  
(\*\*\*silane\*\*\* -treated, filling for polyurethane methacrylate dental  
materials)

L12 ANSWER 24 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1987:50017 CAPLUS  
DN 106:50017  
ED Entered STN: 21 Feb 1987  
TI Trans-Decalin derivatives  
IN Ikegami, Shiro; Hashimoto, Shunichi; Sakata, Shinji  
PA Yamasa Shoyu Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
IC ICM C07D307-92  
ICA A61K007-46; C07C049-427; C07C049-623; C07F007-08  
CC 27-6 (Heterocyclic Compounds (One Hetero Atom))  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 61204178	A2	19860910	JP 1985-44453	19850306
PRAI	JP 1985-44453		19850306		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 61204178	ICM	C07D307-92
	ICA	A61K007-46; C07C049-427; C07C049-623; C07F007-08
	IPCI	C07D0307-92 [ICM,4]; A61K0007-46 [ICA,4]; C07C0049-427 [ICA,4]; C07C0049-623 [ICA,4]; C07F0007-08 [ICA,4]

GI

/ Structure 4 in file .gra /

AB trans-Decalin derivs. I (R = alkyl, \*\*\*silyl\*\*\* ), useful as intermediates for antihypertensive Forskolin, are prepd. Thus, heating a 7:3 mixt. of (E,E)- and (E,Z)-II in MePh and trace amt. \*\*\*Methylene\*\*\* \*\*\*Blue\*\*\* in a sealed tube at 230.degree. gave 59% I (R = Me).

ST Decalin furo Forskolin intermediate; furodecalin Forskolin intermediate; Forskolin intermediate furodecalin

IT 66575-29-9, Forskolin  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(intermediates for, furodecalinone derivs. as)

IT 106221-45-8P 106221-46-9P 106221-47-0P 106221-48-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(prepn. and cyclization of)

IT 106221-50-5P 114375-37-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(prepn. of, as Forskolin intermediate)

L12 ANSWER 25 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1986:68676 CAPLUS  
DN 104:68676  
ED Entered STN: 08 Mar 1986  
TI Milbemycin derivatives for controlling animal and plant pests  
IN Gehret, Jean Claude  
PA Ciba-Geigy A.-G. , Switz.  
SO Eur: Pat. Appl., 32 pp.  
CODEN: EPXXDW

DT Patent  
LA German  
IC ICM C07D493-22  
ICS A01N043-24; A61K031-355  
ICI C07D493-22, C07D313-00, C07D311-00, C07D307-00  
CC 26-6 (Biomolecules and Their Synthetic Analogs)  
Section cross-reference(s): 5

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 144285	A1	19850612	EP 1984-810519	19841029
	EP 144285	B1	19881026		
	R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
	US 4582852	A	19860415	US 1984-664677	19841025
	AT 38230	E	19881115	AT 1984-810519	19841029
	IL 73384	A1	19880131	IL 1984-73384	19841031
	CA 1257586	A1	19890718	CA 1984-466670	19841031
	DK 8405199	A	19850503	DK 1984-5199	19841101
	AU 8434907	A1	19850509	AU 1984-34907	19841101
	AU 575871	B2	19880811		
	ZA 8408534	A	19850626	ZA 1984-8534	19841101

JP 60120880	A2	19850628	JP1984-229065	19841101
JP 05064154	B4	19930914		
PRAI CH 1983-5909	A	19831102		
CH 1984-4736	A	19841002		
EP 1984-810519	A	19841029		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 144285	ICM	C07D493-22
	ICS	A01N043-24; A61K031-355
	ICI	C07D493-22, C07D313-00, C07D311-00, C07D307-00
	IPCI	C07D0493-22 [ICM,4]; A01N0043-24 [ICS,4]; A61K0031-355 [ICS,4]; C07D0493-22 [ICI,4]; C07D0313-00 [ICI,4]; C07D0311-00 [ICI,4]; C07D0307-00 [ICI,4]
	IPCR	A01N0043-90 [I,A]; A01N0043-90 [I,C]; A01N0055-00 [I,A]; A01N0055-00 [I,C]; C07H0019-00 [I,C]; C07H0019-01 [I,A]
US 4582852	IPCI	C07D0495-20 [ICM,4]; C07D0495-22 [ICS,4]; A01N0043-22 [ICS,4]; A61K0031-365 [ICS,4]
	IPCR	A01N0043-90 [I,A]; A01N0043-90 [I,C]; A01N0055-00 [I,A]; A01N0055-00 [I,C]; C07H0019-00 [I,C]; C07H0019-01 [I,A]
	NCL	514/450.000; 549/264.000; 549/265.000
AT 38230	IPCI	C07D0493-22 [ICM,4]; A01N0043-24 [ICS,4]; A61K0031-355 [ICS,4]; C07D0493-22 [ICI,4]; C07D0313-00 [ICI,4]; C07D0311-00 [ICI,4]; C07D0307-00 [ICI,4]
	IPCR	A01N0043-02 [I,C]; A01N0043-24 [I,A]; A61K0031-352 [I,C]; A61K0031-355 [I,A]; C07D0493-00 [I,C]; C07D0493-22 [I,A]
IL 73384	IPCI	C07D0493-22 [ICM,4]; C07F0007-18 [ICS,4]; A01N0043-90 [ICS,4]; A01N0055-00 [ICS,4]; A61K0031-365 [ICS,4]; A61K0031-395 [ICS,4]
CA 1257586	IPCI	A01N0043-90 [ICM,4]
	IPCR	A01N0043-90 [I,A]; A01N0043-90 [I,C]; A01N0055-00 [I,A]; A01N0055-00 [I,C]; C07H0019-00 [I,C]; C07H0019-01 [I,A]
DK 8405199	IPCI	C07D [ICM,4]; C07F [ICS,4]; A01N [ICS,4]
AU 8434907	IPCI	A01N0043-16 [ICM,3]; A61K0031-365 [ICS,3]; C07D0493-22 [ICS,3]
	IPCR	A01N0043-90 [I,A]; A01N0043-90 [I,C]; A01N0055-00 [I,A]; A01N0055-00 [I,C]; C07H0019-00 [I,C]; C07H0019-01 [I,A]
ZA 8408534	IPCI	C07D [ICM,4]; A01N [ICS,4]; C07G [ICS,4]
JP 60120880	IPCI	C07D0493-22 [ICM,4]; A01N0043-90 [ICS,4]; A61K0031-35 [ICS,4]; C07D0493-22 [ICI,4]; C07D0307-00 [ICI,4]; C07D0311-00 [ICI,4]; C07D0313-00 [ICI,4]
OS	MARPAT 104:68676	
GI		

/ Structure 5 in file .gra /

AB Milbemycin derivs. I [X = CH(OR1), CO; X1 = C(:CH2)CH(OH)CH2, C(OH)MeCH:CH; R1 = H, \*\*\*silyl\*\*\*, acyl; R2 = Me, Et, CHMe2, sec-Bu], useful as insecticides, acaricides, and nematocides, were prepd. via oxidn. with singlet oxygen. A soln. of 5.56 g milbemycin D and 0.03 g \*\*\*methylene\*\*\* \*\*\*blue\*\*\* in MeCN was irradiated with O2 addn. at 20.degree. 10 h and the reaction mixt. reduced with 3.9 g Ph3P at 20.degree. to give 4.10 g I [X = CH(OH-.beta.), X1 = C(:CH2)CH(OH)CH2, R2 = CHMe2] (II) and 0.34 g I [X = C(OH)MeCH:CH, X1 and R2 the same] (III). II and III gave 100% kill of Spodoptera littoralis at 12.5 ppm after 24 h.

ST insecticide milbemycin prepn; acaricide milbemycin prepn; nematocide milbemycin prepn; parasiticide milbemycin prepn; pesticide milbemycin prepn

IT Acaricides  
Insecticides  
Nematocides  
Parasiticides  
Pesticides  
(milbemycin derivs.)

IT Oxidation

(of milbemycin derivs. with singlet oxygen)

IT 100107-65-1  
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study); USES (Uses)  
 (acaricidal activity of)

IT 99718-32-8  
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)  
 (insecticidal activity of)

IT 51596-11-3 71827-03-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (oxidn. of, with singlet oxygen)

IT 77855-81-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (oxidn. or acetylation of)

IT 99718-05-5P 99718-06-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and oxidn. of, with manganese dioxide)

IT 83471-32-3P 87616-38-4P 99718-12-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn. and oxidn. of, with singlet oxygen)

IT 99718-07-7P 99718-08-8P 99718-09-9P 99718-10-2P 99718-11-3P  
 99718-15-7P 99718-16-8P 99718-19-1P 99718-20-4P 99718-23-7P  
 99718-24-8P 99718-25-9P 99718-26-0P 99718-27-1P 99718-28-2P  
 99718-29-3P 99718-30-6P 99718-31-7P 99732-80-6P  
 RL: AGR (Agricultural use); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (prepn. and pesticidal activity of)

IT 99718-13-5P 99718-14-6P 99718-17-9P 99718-18-0P 99718-21-5P  
 99718-22-6P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (prepn., desilylation, and pesticidal activity of)

IT 18162-48-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (silylation by, of milbemycin A3)

IT 51596-10-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (silylation of, with tert-butylchlorodimethylsilane)

L12 ANSWER 26 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN  
 AN 1984:543127 CAPLUS  
 DN 101:143127  
 ED Entered STN: 13 Oct 1984  
 TI Determination of trace boron in trichlorosilane  
 AU Lin, Chen Yeh; Chang, Fu Chung; Yeh, Yu Chai; Wu, Shaw Chii  
 CS Inst. Nucl. Energy Res., Lungtan, Taiwan  
 SO Huaxue (1982), 40(4), 133-9  
 CODEN: HUHSA2; ISSN: 0441-3768  
 DT Journal  
 LA Chinese  
 CC 79-6 (Inorganic Analytical Chemistry)  
 Section cross-reference(s): 78

AB Trace B was detd. in SiHCl<sub>3</sub> by inductively-coupled plasma (ICP) emission spectrometry and spectrophotometry. The detection limit for B is 2 ppb in the ICP emission spectrometric method. In the spectrophotometric method, the SiHCl<sub>3</sub> sample is hydrolyzed in the presence of 1% mannitol, and then the hydrolysis product is dissolved in 20% HF and heated to dryness. The solid is dissolved in aq. NH<sub>4</sub>F contg. 1.5M H<sub>2</sub>SO<sub>4</sub> and then  
 \*\*\*methylene\*\*\* \*\*\*blue\*\*\* reagent is added to form a colored complex. The complex is extd. with 1,2-dichloroethane and it has max. absorption at 660 nm. Beer's law is obeyed for 0-2.0 .mu.g B/25 mL and the molar absorptivity is 1.95 .times. 10<sup>4</sup> L mol<sup>-1</sup> cm<sup>-1</sup>. The removal of B impurity in HF and the hydrolysis of SiHCl<sub>3</sub> are also discussed.

ST boron detn emission spectrometry spectrophotometry; spectrophotometry trace boron detn; emission spectrometry trace boron detn; \*\*\*silane\*\*\* trichloro analysis trace boron; hydrogen fluoride removal boron impurity; hydrolysis trichlorosilane; \*\*\*methylene\*\*\* \*\*\*blue\*\*\* reagent

boron detn; extn spectrophotometry trace boron detn; trichlorosilane analysis trace boron

IT Hydrolysis  
(of trichlorosilane)

IT 10025-78-2  
RL: ANST (Analytical study)  
(boron trace detn. in, by extn.-spectrophotometry and inductively-coupled plasma emission spectrometry)

IT 7440-42-8, analysis  
RL: ANST (Analytical study)  
(detn. of trace, in trichlorosilane, by extn.-spectrophotometry and inductively-coupled plasma emission spectrometry)

IT 61-73-4  
RL: ANST (Analytical study)  
(in detn. of boron traces, by extn. and spectrophotometry)

IT 7664-39-3P, preparation  
RL: PUR (Purification or recovery); PREP (Preparation)  
(purifn. of, boron removal in)

L12 ANSWER 27 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1984:140656 CAPLUS

DN 100:140656

ED Entered STN: 12 May 1984

TI Rubber composition

IN Weber, Kenneth Earl; Mukamal, Harold

PA Standard Oil Co., USA

SO Eur. Pat. Appl., 60 pp.

CODEN: EPXXDW

DT Patent

LA English

IC C08K003-34; C08K005-19; C08K005-34; C08K005-54; C08L021-00

CC 39-9 (Synthetic Elastomers and Natural Rubber)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 99710	A1	19840201	EP 1983-304000	19830708
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	US 4431755	A	19840214	US 1982-398994	19820716
	CA 1220296	A1	19870407	CA 1983-431839	19830705
	JP 59027933	A2	19840214	JP 1983-127072	19830714
PRAI	US 1982-398994	A	19820716		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
EP 99710	IC	C08K003-34; C08K005-19; C08K005-34; C08K005-54; C08L021-00
	IPCI	C08K0003-34; C08K0005-19; C08K0005-34; C08K0005-54; C08L0021-00
	IPCR	C08K0003-00 [I,C]; C08K0003-34 [I,A]; C08K0005-00 [I,C]; C08K0005-19 [I,A]; C08K0005-54 [I,A]; C08K0009-00 [I,C]; C08K0009-06 [I,A]
US 4431755	IPCI	C08L0009-06; C08K0003-36; C08K0005-17
	IPCR	C08K0003-00 [I,C]; C08K0003-34 [I,A]; C08K0005-00 [I,C]; C08K0005-19 [I,A]; C08K0005-54 [I,A]; C08K0009-00 [I,C]; C08K0009-06 [I,A]
	NCL	523/203.000; 523/212.000; 523/213.000; 523/216.000; 523/333.000; 523/334.000; 524/447.000; 524/449.000; 524/450.000; 524/451.000; 524/571.000; 524/575.000
CA 1220296	IPCI	C08K0005-54 [ICM,4]; C08K0003-34 [ICS,4]; C08L0007-00 [ICS,4]; C08L0021-00 [ICS,4]
	IPCR	C08K0003-00 [I,C]; C08K0003-34 [I,A]; C08K0005-00 [I,C]; C08K0005-19 [I,A]; C08K0005-54 [I,A]; C08K0009-00 [I,C]; C08K0009-06 [I,A]
JP 59027933	IPCI	C08L0021-02; C08K0003-34; C08K0005-17; C08K0005-54

OS MARPAT 100:140656

AB A rubber compn. comprises a substantially uniformed dispersion in natural or synthetic rubber of 5-200 phr phyllosilicate mineral particles (preferably talc) having a mean particle size 0.01-20 .mu., 0.05-15 phr an organosilane having functional groups capable of bonding to the mineral and the rubber, and 0.005-15 phr quaternary ammonium salt. Thus, 100 wt. parts SBR 1502 rubber was mixed with 5 phr ZnO, 1 phr stearic acid, and 1 phr phenolic antioxidant and repeatedly milled. The rubber sheet was

allowed to form a band in the mill, and compounded with 10 phr process oil, 0.38-2.25 phr quaternary ammonium salt, e.g., 1-methyl-1-oleylamidoethyl-2-oleylimidazolinium Me sulfate [89551-60-0], tallowtrimethylammonium chloride, dimethylditallow ammonium chloride, \*\*\*methylene\*\*\* \*\*\*blue\*\*\* [61-73-4], toluidine \*\*\*blue\*\*\* [92-31-9], or safranin O [477-73-6], and an adduct of 75 phr talc (mean particle size 1.8 .mu. and sp. surface area 16 m2/g) and 0.38-1.5 phr \*\*\*silane\*\*\*, e.g., [3-(methacryloyloxy)propyl]trimethoxysilane [2530-85-0], bis[3-(triethoxysilyl)propyl] tetrasulfide [40372-72-3], or (3-aminopropyl)triethoxysilane [919-30-2]. The rubber was remilled, allowed to cool, and compounded with 3 phr S and 0.75 phr Altax accelerator. The remilled sheets were vulcanized at 160.degree. by compression molding. An improvement in certain properties was obsd. for some combinations of organosilane with quaternary ammonium salt relative to their values for rubber compns. contg. the organosilane alone at concn. equiv. to the combined concns. of both the organosilane and the quaternary ammonium salt. For other combinations of organosilane and quaternary ammonium salt, the properties were essentially the same as those of rubber compns. contg. the organosilane alone at concn. equiv. to the combined concns. of both organosilane and quaternary ammonium salt.

ST SBR physicomech property compounding; quaternary ammonium salt SBR property; phyllosilicate SBR compn; alkoxysilane SBR property; tallow ammonium salt SBR property; \*\*\*methylene\*\*\* \*\*\*blue\*\*\* SBR property; toluidine blue SBR property; safranin SBR property; talc SBR compn

IT Coupling agents  
(alkoxysilanes, for phyllosilicate-filled rubbers)

IT Quaternary ammonium compounds, uses and miscellaneous  
RL: USES (Uses)  
(dimethylditallow and tallowtrimethyl, rubber contg. phyllosilicate mineral filler, alkoxysilane and, physicomech. properties of)

IT Rubber, butadiene-styrene, properties  
Rubber, natural, properties  
RL: PRP (Properties)  
(physicomech. properties of phyllosilicate mineral-filled, compounding effect on)

IT 61-73-4 92-31-9 477-73-6 89551-60-0  
RL: USES (Uses)  
(rubber contg. alkoxysilane, phyllosilicate mineral particles and, physicomech. properties of vulcanized)

IT 2530-85-0  
RL: USES (Uses)  
(rubber contg. phyllosilicate mineral particles, quaternary ammonium salt and, physicomech. properties of vulcanized)

IT 919-30-2 40372-72-3  
RL: USES (Uses)  
(rubber contg. phyllosilicate mineral particles, quaternary ammonium salt and, physicomech. properties of vulcanized)

IT 14807-96-6, properties  
RL: PRP (Properties)  
(rubber filled by, physicomech. properties of vulcanized, compounding effect on)

IT 9003-55-8  
RL: PRP (Properties)  
(rubber, butadiene-styrene; physicomech. properties of phyllosilicate mineral-filled, compounding effect on)

L12 ANSWER 28 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN  
AN 1979:14666 CAPLUS  
DN 90:14666  
ED Entered STN: 12 May 1984  
TI Photooxidizable compositions for lithographic plates  
IN Breslow, David Samuel; Simpson, David Alexander  
PA Hercules Inc., USA  
SO Belg., 35 pp. Addn. to Belg. 820,855.  
CODEN: BEXXAL  
DT Patent  
LA French  
IC G03C  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
FAN.CNT 3  
PATENT NO. KIND DATE APPLICATION NO. DATE

PI	BE 860611	A4	19780508	BE 1977-182452	19771108
	CA 1110899	A1	19811020	CA 1977-282647	19770713
	GB 1560304	A	19800206	GB 1977-34625	19770818
	FR 2370302	A2	19780602	FR 1977-30996	19771014
	FR 2370302	B2	19830128		
	US 4272610	A	19810609	US 1980-122162	19800219
	US 4271259	A	19810602	US 1980-158198	19800611
PRAI	US 1976-739928	A	19761108		
	US 1977-758746		19770112		
	US 1973-405192	A2	19731010		
	US 1975-644237	A2	19751224		
	US 1978-912154	A1	19780602		

# CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
BE 860611	IC	G03C
	IPCI	G03C
CA 1110899	IPCI	G03C0001-00; G03C0001-72
	IPCR	G03F0007-027 [I,A]; G03F0007-027 [I,C]
GB 1560304	IPCI	G03C0001-00; G03C0001-68; G03C0001-71
	IPCR	G03F0007-027 [I,A]; G03F0007-027 [I,C]
FR 2370302	IPCI	G03C0001-71; C08F0002-48
	IPCR	G03F0007-027 [I,A]; G03F0007-027 [I,C]
US 4272610	IPCI	G03C0001-68
	IPCR	G03F0007-027 [I,A]; G03F0007-027 [I,C]
	NCL	430/302.000; 430/281.100; 430/283.100; 430/286.100; 430/288.100; 430/306.000; 430/311.000
US 4271259	IPCI	G03C0001-68
	IPCR	G03F0007-027 [I,A]; G03F0007-027 [I,C]; G03F0007-029 [I,A]; G03F0007-029 [I,C]
	NCL	430/286.100; 430/281.100; 430/283.100; 430/288.100; 522/066.000; 522/088.000; 522/107.000; 522/117.000; 522/121.000; 522/167.000; 522/182.000; 522/183.000

GI

/ Structure 6 in file .gra /

AB Photopolymer compns. contg. a polymerizable ethylenically unsatd. monomer, photooxidizable (peroxide-forming) olefinic-group-contg. compd., a viscosity-regulating satd. polymer, a peroxide-decomp. catalyst such as a transition metal compd., and a photooxygenation sensitizing agent such as \*\*\*methylene\*\*\* \*\*\*blue\*\*\* are used to prep. printing plates and photoresists. Thus, a coating compn. comprised of hydroxyporpyl cellulose 100, pentaerythritol triacrylate 75, photooxidizable I 23, Rose Bengal 4.3 mg, and anhyd. EtOH 11 mL was coated on a \*\*\*silane\*\*\* -compd.-subbed grained Al sheet to a dry thickness of 3 .mu., imagewise exposed (Sylvania R32 lamp of 375 W, 60 cm distance), degassed under vacuum using N, treated with a degassed catalyst soln. of vanadium oxyacetylacetonate in benzene under N atm. for .apprx.30 min, and developed by water-washing to give a polymer image in the exposed areas and bared Al in the nonexposed areas.

ST photopolymer compn printing plate; photoresist photopolymer compn

IT Naphthenic acids, compounds  
RL: PREP (Preparation)  
(cobalt salt, photopolymerizable compn. contg., for printing plate and photoresist prepn.)

IT Rubber, natural, uses and miscellaneous  
RL: PREP (Preparation)  
(photopolymerizable compn. contg., for printing plate and photoresist prepn.)

IT Printing plates  
(photopolymerizable compn. for prepn. of, contg. ethylenically unsatd. monomer and photooxidizable olefinic-group-contg. compd.)

IT Rubber, synthetic  
RL: PREP (Preparation)  
(ethylene-ethylidenenorbornene-propene, photopolymerizable compn. contg., for printing plate and photoresist prepn.)

IT Resists  
(photo-, photopolymerizable compn. for prepn. of, contg. ethylenically unsatd. monomer and photooxidizable olefinic-group-contg. compd.)



IT Photoimaging compositions and processes  
 (photopolymerizable, contg. ethylenically unsatd. monomer and  
 photooxidizable olefinic-group-contg. compd.)  
 IT 110-26-9 513-81-5D, reaction products with Bisphenol A-propylene  
 oxide-fumaric acid polymer 3153-26-2 3524-68-3 9004-64-2  
 14024-18-1 14074-80-7 26793-34-0 39382-25-7D, reaction products with  
 dimethylbutadiene 57100-44-4 68658-27-5 68987-31-5  
 RL: USES (Uses)  
 (photopolymerizable compn. contg., for printing plate and photoresist  
 prepn.)

L12 ANSWER 29 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1976:38366 CAPLUS

DN 84:38366

ED Entered STN: 12 May 1984

TI Indicators covalently bound to insoluble carriers

IN Harper, Gerald B.

PA Can.

SO U.S., 5 pp.

CODEN: USXXAM

DT Patent

LA English

IC G01N

INCL 023253000TP

CC 79-3 (Inorganic Analytical Chemistry)

Section cross-reference(s): 57

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3904373	A	19750909	US 1973-409876	19731026
PRAI	US 1973-409876	A	19731026		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 3904373	IC	G01N
	INCL	023253000TP
	IPCI	G01N0029-02; G01N0031-00; G01N0033-00
	IPCR	G01N0031-22 [I,A]; G01N0031-22 [I,C]
	NCL	422/057.000; 436/166.000; 436/169.000

AB Indicators insolubilized by covalent bonding to inorg. carriers, such as glass stirring rods, do not contaminate the soln. tested and may be used repeatedly. They replace the indicator test papers. The indicator and the carrier are coupled via a \*\*\*silane\*\*\* coupling agent, whose Si part has an affinity for inorg. materials and the org. part is an indicator or can be chem. modified to form an indicator. The coupling agent is combined with the indicator via an alkyl, azo, or sulfonamide link. The general formula of the coupling agent is  $XnSiR(4-n)$ , where X is an alkyl, aryl, or aryl-alkyl, R is an alkoxy, aryloxy, or a halogen group, and n is 1, 2, or 3. The carrier is a glass, ZrO<sub>2</sub>-coated glass, or a metal oxide, e.g. NiO. The indicator is a N,N-dialkylaniline, triarylmethyl compd. (e.g. phenolphthalein), 2-naphthol deriv. (e.g. Eriochrome Black T), or \*\*\*methylene\*\*\* \*\*\*blue\*\*\*.

ST indicator insoluble noncontaminating; \*\*\*silane\*\*\* coupling carrier indicator; glass bound indicator; oxide bound indicator; arom amine indicator insolubilized; phenol indicator insolubilized

IT Glass

Oxides, uses and miscellaneous

RL: ANST (Analytical study)

(acid-base indicators covalently bound to)

IT Indicators

(acid-base, covalently bound to insol. carriers)

IT 42833-84-1D, Benzoyl chloride, 2,4,6-trimethoxy-, reaction products with aminopropylethoxysilylated glass

RL: RCT (Reactant); RACT (Reactant or reagent)

(coupling of, with diazotized Eriochrome Black T, in fabrication of acid-base indicator sticks)

IT 58698-88-7D, \*\*\*Silane\*\*\*, triethoxy[(2,4,6-trimethoxyphenyl)methyl]-, reaction products with glass

RL: RCT (Reactant); RACT (Reactant or reagent)

(coupling of, with diazotized aminomethylaniline)

IT 919-30-2D, 1-Propanamine, 3-(triethoxysilyl)-, reaction products with glass, aminobenzoyl derivs. 16106-38-0D, Benzoyl chloride, 4-amino-,

- reaction products with aminopropylethoxysilylated glass  
 RL: PRP (Properties)  
 (diazotization and coupling of, with indicators, in fabrication of  
 acid-base indicator sticks)
- IT 94-10-0DP, 1,3-Benzenediamine, 4-[(4-ethoxyphenyl)azo]-, reaction products  
 with isothiocyanopropylethoxysilylated nickel oxide 125-31-5DP, Phenol,  
 4,4'-(3H-2,1-benzoxathiol-3-ylidene)bis[2,5-dimethyl-, S,S-dioxide,  
 reaction products with aminopropylethoxysilylated glass 272-18-4DP,  
 3H-2,1-Benzoxathiole, phenol deriv., reaction products with  
 aminopropylethoxysilylated glass 1313-99-1DP, Nickel oxide (NiO),  
 isothiocyanopropylethoxysilylated, reaction products with ethoxazene  
 1787-61-7DP, 1-Naphthalenesulfonic acid, 3-hydroxy-4-[(1-hydroxy-2-  
 naphthalenyl)azo]-7-nitro-, monosodium salt, diazotized, reaction products  
 with methoxybenzoylaminopropylethoxysilylated glass 2321-07-5DP,  
 Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 3',6'-dihydroxy-,  
 reaction products with aminopropylethoxysilylated glass 2836-04-6DP,  
 1,3-Benzenediamine, N,N-dimethyl-, diazotized, reaction products with  
 methoxybenzylethoxysilylated glass 58882-63-6DP, 3H-2,1-Benzoxathiole-6-  
 carboxylic acid, 3,3-bis(4-hydroxyphenyl)-, 1,1-dioxide, reaction products  
 with aminopropylethoxysilylated glass  
 RL: PREP (Preparation)  
 (in acid-base indicator stick prepn.)
- IT 61-73-4D, Phenothiazin-5-ium, 3,7-bis(dimethylamino)-, chloride, reaction  
 products with diazotized aminobenzoylaminopropyltriethoxysilylated glass  
 77-09-8D, 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)-, reaction  
 products with diazotized aminobenzoylaminopropyltriethoxysilylated glass  
 121-69-7D, Benzenamine, N,N-dimethyl-, reaction products with diazotized  
 aminobenzoylaminopropyltriethoxysilylated glass  
 RL: ANST (Analytical study)  
 (in acid-base indicator sticks)
- IT 10025-78-2  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with acids)
- IT 570-02-5 58882-63-6  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with chlorosilane)
- IT 58698-89-8D, \*\*\*Silane\*\*\*, triethoxy(3-isothiocyanatopropyl)-,  
 reaction products with nickel oxide  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with ethoxazene)
- L12 ANSWER 30 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN
- AN 1975:421776 CAPLUS
- DN 83:21776
- ED Entered STN: 12 May 1984
- TI Chemical purification of silicon. II. Determination of impurities in  
 trichlorosilane and crude silicon
- AU Chang, Ming-Ming; Chen, Chi-Chen; Liu, Chao-Shiuan; Chang, Chao-Ting; Shu,  
 Frank R.
- CS Inst. Appl. Chem., Natl. Tsing Hua Univ., Hsinchu, Taiwan
- SO Journal of the Chinese Institute of Chemical Engineers (1974), 5(2),  
 99-105  
 CODEN: JCICAP; ISSN: 0368-1653
- DT Journal
- LA English
- CC 79-6 (Inorganic Analytical Chemistry)
- AB An analytical procedure for the detn. of metal and nonmetal impurities at  
 ppm levels in crude Si and purified SiHCl<sub>3</sub> was developed. Most metal  
 impurities were detd. by direct at. absorption spectrophotometric  
 techniques. A fluorometric method was developed for the detn. of Al. B  
 and P were detd. via the \*\*\*methylene\*\*\* \*\*\*blue\*\*\* method and the  
 molybdophosphoric acid method, resp. The chlorination process used is  
 highly effective in removing impurities in the course of chem. purifn. of  
 Si. A brief review on various analytical methods currently available for  
 the detn. of Al, B, and P is also included.
- ST chlorosilane analysis impurity; silicon analysis impurity; \*\*\*silane\*\*\*  
 trichloro analysis impurity; boron detn silicon trichlorosilane; aluminum  
 detn silicon trichlorosilane; phosphorus detn silicon trichlorosilane
- IT 7439-89-6, analysis 7439-95-4, analysis 7439-96-5, analysis  
 7440-02-0, analysis 7440-50-8, analysis 7440-70-2, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (detn. of, in silicon and trichlorosilane, at. absorption)

spectrophotometric)  
 IT 7429-90-5, analysis 7440-42-8, analysis 7723-14-0, analysis  
 RL: ANT (Analyte); ANST (Analytical study)  
 (detn. of, in silicon and trichlorosilane, spectrophotometric)  
 IT 7440-21-3, analysis 10025-78-2  
 RL: AMX (Analytical matrix); ANST (Analytical study)  
 (impurity detn. in)  
 IT 2092-55-9D, Benzenesulfonic acid, 4-hydroxy-3-[(2-hydroxy-1-naphthalenyl)azo]-, monosodium salt, aluminum complex 7429-90-5D,  
 Aluminum, Pontachrome Violet SW complex  
 RL: PRP (Properties)  
 (spectrum of)

L12 ANSWER 31 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1974:139581 CAPLUS

DN 80:139581

ED Entered STN: 12 May 1984

TI Receptor sheet compositions for no-carbon duplicating paper

IN Ohara, Isao; Seki, Masanori; Ito, Hiroshi

PA Oji Paper Co., Ltd.

SO Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

INCL 116G13

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 49009312	A2	19740126	JP 1972-51362	19720524
	JP 54032365	B4	19791013		
PRAI	JP 1972-51362	A	19720524		

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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JP 49009312	INCL	116G13
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AB Color-forming compns. used in noncarbon copying papers are obtained by treating clay previously condensed with \*\*\*silane\*\*\* coupling agents, such as CH<sub>2</sub>:CHSiCl<sub>3</sub>, CH<sub>2</sub>:CHSi(OEt)<sub>3</sub>, and CH<sub>2</sub>:CHSi[OCH<sub>2</sub>CH(OMe)OEt]<sub>3</sub> (I), with PhOH derivs. These compns. are useful in developing Crystal Violet lactone to give images having a bluish purple color that is stable to sunlight, and the receptor sheets thus prepd. have good moisture resistance and long shelf-life. Thus, the solid product from the reaction of 100 g kaolin with 10 g I dissolved in 1 l. H<sub>2</sub>O was washed, dried, dispersed in 350 ml CHCl<sub>3</sub>, and boiled after the addn. of 25 ml SOCl<sub>2</sub>. The reaction product was then heated with PhOH 300 g and AlCl<sub>3</sub> 20 g at 80.degree., filtered, and dried to give a color-forming agent. A receptor sheet, prepd. by coating a paper support with a compn. contg. this coloring agent 100 and polybutadiene-styrene latex 10 parts, formed blue violet images when pressure-contacted with a paper coated with gelatin-encapsulated Crystal Violet lactone and benzoyl leuco \*\*\*methylene\*\*\* \*\*\*blue\*\*\*.

ST pressure copy paper receptor; clay copy paper receptor

IT Copying paper

(pressure-sensitive, \*\*\*silane\*\*\* deriv.- and phenol deriv.-modified clay receptor layers for)

IT Clays

Kaolin, uses and miscellaneous

RL: USES (Uses)

( \*\*\*silane\*\*\* deriv.- and phenol deriv.-modified, for receptor layers for pressure-sensitive copying paper)

IT 52578-68-4

RL: USES (Uses)

(clays modified by phenol and, for pressure-sensitive copying paper receptor sheets)

IT 75-94-5 78-08-0 7803-62-5, \*\*\*Silane\*\*\*

RL: USES (Uses)

(clays modified by phenol derivs. and, for pressure-sensitive copying paper receptor sheets)

IT 108-95-2, uses and miscellaneous

RL: USES (Uses)

(clays modified by \*\*\*silane\*\*\* derivs. and, for pressure-sensitive

copying paper receptor sheets)

L12 ANSWER 32 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1967:460646 CAPLUS

DN 67:60646

ED Entered STN: 12 May 1984

TI Determination of sulfide sulfur in trichlorosilane

AU Shafran, I. G.; Vzorova, I. F.; Dorosinskaya, M. I.; Fidlou, L. K.;  
Yur'eva, V. A.

SO Trudy IREA (1966), No. 28, 15-23

CODEN: TKRKAM; ISSN: 0371-876X

DT Journal

LA Russian

CC 79 (Inorganic Analytical Chemistry)

AB Sulfide S was detd. by hydrolysis of  $\text{SiHCl}_3$  and subsequent sweeping out of the resulting  $\text{H}_2\text{S}$  by a stream of  $\text{N}_2\text{H}_2\text{S}$  was then detd. colorimetrically by formation of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* (Gustafsson, CA 55: 3301g) or by the luminescent method (Wronski, CA 55: 20758e) which involves acetoxymethylfluorescein. In com. pure  $\text{SiHCl}_3$  the content of S was 2 .times. 10-2 - 1 .times. 10-4%. The relative error of detn. in samples contg. 10-7% S was .ltoreq.20%.

ST SULFIDES DETN CHLOROSILANES; CHLOROSILANES ANAL SULFIDES; \*\*\*SILANES\*\*\*  
CHLORO ANAL SULFIDES; \*\*\*METHYLENE\*\*\* \*\*\*BLUE\*\*\* S DETN

IT 18496-25-8, analysis

RL: ANT (Analyte); ANST (Analytical study)

(detn. of, in trichlorosilane)

IT 10025-78-2

RL: AMX (Analytical matrix); ANST (Analytical study)

(sulfide detn. in)

L12 ANSWER 33 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1964:14427 CAPLUS

DN 60:14427

OREF 60:2519a-d

ED Entered STN: 22 Apr 2001

TI Sources of error in the preparation of samples for the absolute calibration of solutions of .beta.-emitters with a 4.pi.-counter

AU Klumpar, Josef; Majerova, Miroslava

CS Czech. Acad. Sci., Prague

SO JADERNA ENERGIE (1963), 9, 258-66

CODEN: JADEAQ; ISSN: 0448-116X

DT Journal

LA Unavailable

CC 13 (Nuclear Technology)

AB The following factors were studied: (1) Dilg. the solns.: A diln. factor of .apprx.3000 is usually necessary, and should be reached in 2 stages. Thorough mixing is important: Swirling a \*\*\*methylene\*\*\* \*\*\*blue\*\*\* soln. 10 times, still left concn. gradients of 1%. (2) Stability of solns.: Reactions with other soln. components, with walls of container, or with the atm. may cause loss of active material. The relative effect increases with increasing diln., but the amt. of carrier which can be used is limited by admissible self-absorption. (3) Adsorption: Expts. were carried out on the adsorption of  $\text{Na}^+$ ,  $\text{Co}^{2+}$ , and  $\text{PO}_4^{3-}$  on surface of glass; glass coated with methyl-siloxane, methylchlorosilane, paraffin, or fat; poly(vinyl chloride); and polyethylene. (4) Self-absorption of radiation in sample: This can never be reduced to zero, because crystal size has a lower limit even at great diln. of soln. being evapd., so that self-absorption within the crystal always remains. Absorption by neighboring crystals is calcd. from a simple formula. The optimum carrier concn. found this way is similar to that usually c used, but this calcn. gives a theor. justification. (5) Supports for evapg. drop: The thickness of the thin film of lacquer, nitrocellulose, etc. (5-10 .gamma./cm.<sup>2</sup>) is detd. by depositing the film under std. conditions. However, the metal coating necessary to make the support conductive weighs many times more. Expts. to check whether metal coating is necessary were inconclusive, and its use is therefore recommended. (6) Evapn. of the drop: A method is given for indirect weighing of the drop, by weighing a polyethylene bottle with the soln. before and after; this avoids correcting for evapn. losses during weighing. Evapn. from a frozen drop was abandoned, because active material was lost by explosion of air bubbles.

IT Siloxanes

(Me, adsorption of Co, phosphate and Na ions from soln. by glass coated

with)  
 IT Fats  
 (adsorption of Co, phosphate and Na ions from soln. by glass coated with)  
 IT Paraffins  
 (adsorption of Co, phosphate and Na ions from soln. on glass coated with)  
 IT Phosphates  
 (adsorption of, from soln. onto glass in calibration of .beta.-emitter solns.)  
 IT Adsorption  
 (of cobalt, Na and phosphate ions by glass, in calibration of .beta.-emitter solns.)  
 IT 12587-47-2, Beta ray  
 (-emitters, prepn. and calibration of solns. of)  
 IT 9002-86-2, Ethylene, chloro-, homopolymer  
 (adsorption of Co, phosphate and Na ions from soln. by glass coated with)  
 IT 993-00-0, \*\*\*Silane\*\*\*, chloromethyl- 9002-88-4, Ethylene polymers  
 (adsorption of Co, phosphate and Na ions from soln. onto glass coated with)  
 IT 7440-48-4, Cobalt  
 (adsorption of, from soln. by glass in calibration of .beta.-emitter solns.)  
 IT 7440-23-5, Sodium  
 (adsorption of, from soln. onto glass in calibration of .beta.-emitter solns.)

L12 ANSWER 34 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1960:108731 CAPLUS

DN 54:108731

OREF 54:20614b-i,20615a-c

ED Entered STN: 22 Apr 2001

TI Color reactions on silicon-organic compounds and their application in colorimetric analysis

AU Kreshkov, A. P.; Bork, V. A.

CS D. I. Mendeleev Chem.-Technol. Inst., Moscow

SO Izvestiya Vysshikh Uchebnykh Zavedenii, Khimiya i Khimicheskaya

Tekhnologiya (1960), 3, 410-15

CODEN: IVUKAR; ISSN: 0579-2991

DT Journal

LA Unavailable

CC 7 (Analytical Chemistry)

AB Qual. color reactions were found for the following classes of Si-org. compds.: phenoxysilanes (I), hexaalkyldisilanes (II), and aminosilanes (III), and also  $\text{HSiCl}_3$  and  $\text{SiCl}_4$ . Photometric methods of analysis of some Si-org. compds. and their mixts. were developed. I with Cu-NH<sub>3</sub> complex form a green ppt. or a green coloration, owing apparently to the formation of a complex compd. of Cu with the phenol in an NH<sub>3</sub> medium (min. detected: 5-10 mg.). I with concd. HNO<sub>3</sub> give a red or yellow color (min. detected: 0.8-0.08 mg.). I solns. decolorize Br, and a ppt. of tribromophenol is formed (min. detected 2-0.08 mg.). I with Ca hypochlorite or Br water give a light-blue or green color (min. detected: 1.6-0.4 mg.).  $\text{HSiCl}_3$  or its soln. in AcOH or C<sub>6</sub>H<sub>6</sub> gives with a AcOH soln. of (NH<sub>4</sub>)<sub>2</sub>MoO<sub>4</sub> a stable dark-blue color (min. detected: 0.1-0.01 mg.).  $\text{HSiCl}_3$  gives with Ag ammoniate a black ppt. of metallic Ag (min. detected: 0.1-0.001 mg.).  $\text{SiCl}_4$  with HI or KI liberates iodine; iodine is also evolved by the interaction of  $\text{SiCl}_4$  vapors on KI. K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> in dil. HNO<sub>3</sub> forms with methoxy- and ethoxysilanes a blue-violet color; in the presence of  $\text{SiCl}_4$  the formation of the color is retarded.  $\text{SiCl}_4$  decolorizes an alc. soln. of Fe[Fe(SCN)<sub>6</sub>]. II heated with P<sub>2</sub>O<sub>5</sub> yield (R<sub>3</sub>Si)<sub>3</sub>PO<sub>4</sub>; the C<sub>6</sub>H<sub>6</sub> ext. of the latter, decompd. by molybdate HNO<sub>3</sub> soln. on heating, yields a cryst. ppt. of phosphomolybdic acid. II with concd. H<sub>2</sub>SO<sub>4</sub> yield (R<sub>3</sub>Si)<sub>2</sub>SO<sub>4</sub>; the petr. ether ext. of the latter, decompd. by a BaCl<sub>2</sub> soln. acidified with HCl, yields a ppt. of BaSO<sub>4</sub>. Si(NHPh)<sub>4</sub> or Me<sub>2</sub>Si(NHPh)<sub>2</sub> with a dil. soln. of K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> acidified with H<sub>2</sub>SO<sub>4</sub> gives a dark-blue color, characteristic of the PhNH group; on a heating the reaction mixt., Me<sub>2</sub>Si(NHPh)<sub>2</sub> forms a porous greenish mass and Si(NHPh)<sub>4</sub> forms a ppt. of SiO<sub>2</sub> (min. detected: 0.5 mg.). III with a satd. soln. of KIO<sub>3</sub> in dil. H<sub>2</sub>SO<sub>4</sub>, on gentle heating, give a cherry-red color reaction of the PhNH group (min. detected: 0.5 mg.). With prolonged and vigorous heating, III yield SiO<sub>2</sub> with excess dry KIO<sub>3</sub> in concd. H<sub>2</sub>SO<sub>4</sub>. Si(NHPh)<sub>4</sub> with dry KBrO<sub>3</sub> in the

presence of a small amt. of dil. H<sub>2</sub>SO<sub>4</sub> gives on gentle heating an orange ppt. together with the sepn. of free Br (min. detected: 2-3 mg.). PhNH<sub>2</sub> and Me<sub>2</sub>Si(NHPh)<sub>2</sub> give, under these conditions, a cherry-red color. The detn. of the phenoxy groups is based on the hydrolytic sepn. of the group in the form of phenol and its subsequent detn. according to the blue color obtained by the interaction of phenol with Cl<sup>-</sup> or Br-H<sub>2</sub>O in the presence of NH<sub>4</sub>OH. The detn. of impurities of EtOH with Fe(SCN)<sub>3</sub> is based on the capacity of the alcs. to dissolve Fe(SCN)<sub>3</sub> with the formation of a red color, whereas the alkoxysilanes do not show this property. To 5-ml. portions of EtOH solns. in tetraethoxysilane, add 0.1 g. dry Fe(SCN)<sub>3</sub>; after 40 min., centrifuge and measure photometrically. The detn. of alcs. with methyl violet is based on the capacity of the former to dissolve the dye with the formation of a violet soln.; to 10 ml. of the MeOH-EtOH solns. in the corresponding tetraalkoxysilanes, add 0.1 g. dry powder of methyl violet, stir, allow to stand 20 min., centrifuge, and measure photometrically. Ext. the impurities of phenol with H<sub>2</sub>O in the cold, add 3 drops 10% FeCl<sub>3</sub> or 3 drops of Cu-NH<sub>3</sub> complex, and measure colorimetrically. The detn. of the ethoxy group is based on its sepn. in the form of the corresponding alc. and the detn. of the latter in C<sub>6</sub>H<sub>6</sub> soln. with \*\*\*methylene\*\*\* \*\*\*blue\*\*\*; treat the sample during 20 min. in the cold with portions of satd. NaOH amounting to half the vol., add some C<sub>6</sub>H<sub>6</sub>, evap. the alc. with C<sub>6</sub>H<sub>6</sub>, and dil. the vol. of the liquid to 5 ml. with C<sub>6</sub>H<sub>6</sub>; stir the mixt. with anhyd. CuSO<sub>4</sub> to remove water, add about 0.05 g. \*\*\*methylene\*\*\* \*\*\*blue\*\*\*, allow to stand 10 min., centrifuge, and measure photometrically. The detn. of trimethylchlorosilane in the presence of other methylchlorosilanes is based on the interaction of trialkylchlorosilanes with P<sub>2</sub>O<sub>5</sub>; heat the soln. with 0.1-0.15 g. P<sub>2</sub>O<sub>5</sub> 10 min., ext. the ester with C<sub>6</sub>H<sub>6</sub>, transfer to a volumetric flask, heat 5 min. with 1 ml. satd. (NH<sub>4</sub>)<sub>2</sub>MoO<sub>4</sub> and 5 drops concd. H<sub>2</sub>SO<sub>4</sub>, allow to stand, add 5 drops 5N H<sub>2</sub>SO<sub>4</sub> and 0.5 ml. 5% SnCl<sub>2</sub>, dil. to the mark with 2N H<sub>2</sub>SO<sub>4</sub>, and measure photometrically. Hexamethyl and hexaethyldisiloxanes can be detd. in the same manner. The detn. of HSiCl<sub>3</sub> is based on the formation of the Si-Mo complex and its redn. to molybdenum blue under the action of (NH<sub>4</sub>)<sub>2</sub>MoO<sub>4</sub> on HSiCl<sub>3</sub>; to small amts. of HSiCl<sub>3</sub> soln. in anhyd. AcOH (contg. 2-8 mg. HSiCl<sub>3</sub>), add 10 drops 5% (NH<sub>4</sub>)<sub>2</sub>MoO<sub>4</sub> acidified with AcOH, and then 4 ml. 2N AcOH, centrifuge the ppt.; to the soln., add water to 50 ml., allow to stand 30 min., and measure. The detn. of SiCl<sub>4</sub> impurities in alkoxysilanes is based on the decoloration of SiCl<sub>4</sub> soln. with Fe(SCN)<sub>3</sub>; add 0.1-0.6 ml. of SiCl<sub>4</sub> soln. in tetraethoxysilane to 3 ml. of the dil. alc. soln. of Fe(SCN)<sub>3</sub>, dil. to 4 ml., with C<sub>6</sub>H<sub>6</sub>, and measure photometrically. 22 references.

- IT Phenoxy group  
(detn. in organo-Si compds.)
- IT Ethoxy group  
(detn. of, in tetraalkoxysilane)
- IT Color reactions  
(of silicon-org. compds.)
- IT 7803-62-5, \*\*\*Silane\*\*\*  
(alkoxy and phenoxy derivs., color reactions and detection of)
- IT 15416-74-7, Pyridinium, 1-dodecyl-  
(chromatographic sepn. from onium compds.)
- IT 78-10-4, Ethyl silicate, Et<sub>4</sub>SiO<sub>4</sub> 107-46-0, Disiloxane, hexamethyl-  
994-49-0, Disiloxane, hexaethyl- 5700-43-6, Silantetramine,  
N,N',N'',N'''-tetraphenyl- 13435-09-1, Silanedi-amine,  
1,1-dimethyl-N,N'-diphenyl-  
(color reactions and detection of)
- IT 7440-21-3, Silicon  
(compds., color reactions and detection of)
- IT 13598-78-2, Silylamine  
(derivs., color reactions and detection of)
- IT 10025-78-2, \*\*\*Silane\*\*\*, trichloro- 10026-04-7, Silicon chloride,  
SiCl<sub>4</sub>  
(detection and detn. of)
- IT 62-53-3, Aniline  
(detection of)
- IT 75-77-4, \*\*\*Silane\*\*\*, chlorotrimethyl-  
(detn. of, in chloromethylsilanes)
- IT 67-56-1, Methanol  
(detn. of, in tetraalkoxysilane)
- IT 64-17-5, Ethyl alcohol  
(detn. of, in tetraethoxysilane)
- IT 1590-87-0, Disilane

(hexaalkyl derivs., color reactions and detection of)  
IT 340-02-3, Arsine, methylphenyl(trifluoromethyl)-  
(prepn. of)

L12 ANSWER 35 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1960:61296 CAPLUS

DN 54:61296

OREF 54:11818i,11819a-c

ED Entered STN: 22 Apr 2001

TI Analysis of the chlorine content in silicon-organic compounds

AU Syavtsillo, S. V.; Shemyatenkova, V. T.; Neshumova, A. M.

SO Zavodskaya Laboratoriya (1958), 24, 287-9

CODEN: ZVDLAU; ISSN: 0321-4265

DT Journal

LA Unavailable

CC 7 (Analytical Chemistry)

AB The efficiency of the action of various hydrolyzing media (H<sub>2</sub>O, EtOH, 1:1 H<sub>2</sub>O-EtOH, 0.1N aq. KOH, 10% NH<sub>4</sub>OH, and 1:1 EtOH-ice water) toward alkyl- and arylchlorosilanes was investigated. The best hydrolyzing medium was the mixt. EtOH-H<sub>2</sub>O (in a 1:1 ratio by vol.). When analyzing H-contg. Si-org. compds., to remove H, which reduces Hg, it is necessary to dissolve the compd. to be analyzed in the EtOH-H<sub>2</sub>O mixt. by boiling 1-2 min. with an excess of concd. alkali (phenolphthalein) and to neutralize and acidify with 0.5N HNO<sub>3</sub>, before titration. To det. the total content of Cl, transfer 0.1-0.15 g. of the compd. in a thin-walled ampul to a 750-ml. Erlenmeyer flask contg. 50-75 ml. liquid NH<sub>3</sub>. Introduce 2-3 small pieces (0.1-0.2 g.) of Na. Break the capillary end of the ampul with a glass rod, and if the soln. is discolored, add a few more pieces of Na. Stir the soln. 5-10 min., break the ampul into small pieces, and add more Na until the blue color does not remain for 10 min.; approx. 1 g. Na is necessary. After complete volatilization of NH<sub>3</sub>, add 20-5 ml. EtOH to the dry residue to react with the excess Na, wash the walls and the rod with 20-5 ml. H<sub>2</sub>O, neutralize the soln. with 0.5N HNO<sub>3</sub>, add a 2-3 ml. excess, and det. Cl by the mercurimetric or argentometric methods. A blank is necessary; the time of analysis is 1 hr. Before the mercurimetric titration, neutralize the liquid with 0.5 N HNO<sub>3</sub> (phenolphthalein), add 2-3 ml. excess; then add 1-2 drops 0.01% alc. soln. of \*\*\*methylene\*\*\* \*\*\*blue\*\*\* and 10 drops 2% diphenylcarbazone soln. and titrate with 0.1N Hg(NO<sub>3</sub>)<sub>2</sub> to the light redblue (or violet) change.

IT 7782-50-5, Chlorine

(analysis, detn. in org. Si compds.)

IT 7782-50-5, Chlorine

(analysis, detn. of free Cl, in hypochlorite solns.)

IT 7803-62-5, \*\*\*Silane\*\*\*

(chloro derivs., Cl detn. in)

IT 7440-21-3, Silicon

(compds., chlorine detn. in org.)

L12 ANSWER 36 OF 36 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1942:7856 CAPLUS

DN 36:7856

OREF 36:1259g-i,1260a-f

ED Entered STN: 16 Dec 2001

TI The state of analytical research work in the aluminum and magnesium industry

AU Vasil'ev, K. A.

SO Trudy Vsesoyuz. Konferentsii Anal. Khim., Akad. Nauk S. S. S. R. (1939), 1, 337-55

From: Khim. Referat. Zhur. 1940, No.2, 61-2

DT Journal

LA Unavailable

CC 7 (Analytical Chemistry)

AB Anal. methods for raw materials, intermediate products and the final products of the Al-Mg industry were unified. A rapid explosion method is proposed for the decompn. of bauxites which are not decompd. by acids. Mix the bauxite sample with 10 g. of Na<sub>2</sub>O<sub>2</sub> and 0.6 g. of ashless carbon in a Ni crucible and burn the mixt. The decompn. is completed after 1 min. For bauxites which can be decompd. with acids, decompn. with a mixt. of HCl and H<sub>2</sub>SO<sub>4</sub> is proposed. SiO<sub>2</sub> can be detd. by the accelerated method of coagulating the gelatinous SiO<sub>2</sub> in a strongly acid soln. Al is detd. by difference from the sum Al<sub>2</sub>O<sub>3</sub> + Fe<sub>2</sub>O<sub>3</sub>, + SiO<sub>2</sub> + P<sub>2</sub>O<sub>5</sub>. Fe<sub>2</sub>O<sub>3</sub> is detd. by

\*titrating with Cr2O7-- in the presence of diphenylamine after redn. with SnCl2. The barite method is proposed for the rapid detn. of Na2O. Boil the sample with 1 g. of Ba(OH)2, pass CO2 into the hot soln. until colorless to phenolphthalein and transfer the soln. with the ppt. into a measuring flask. Filter off an aliquot part of the soln., destroy the bicarbonates by boiling, filter and titrate the Na2CO3 with 0.1 N HCl in the presence of a mixed indicator (methyl orange + indigo carmine). In the anal. of aluminate solns. a colorimetric method with NH4 molybdate is proposed for small amts. of SiO2. The detn. is carried out in the Popov photocalorimeter. For detg. Al2O3 and total Na2O best results were obtained with the following methods: (1) The method of Tsimbal. Det. the total alky. (Na2O) in one portion of the aluminate soln. by titrating with HCl with boiling in the presence of phenolphthalein. In a 2nd portion titrate Al2O3 + Na2O with HCl in the presence of an indicator with a light filter (di-Methyl yellow and \*\*\*methylene\*\*\* \*\*blue\*\* ) (pH 3.25) and det. Al2O3 from the difference of the 2 titrns. (2) The method of Bogolepov. Det. total alky. by titrating with HCl in the presence of rosolic acid, first in the cold, later with boiling. Det. Al2O3 + Na2O by titrating with acid in the presence of p-azobenzylanilinebenzenesulfonic acid (pH 1.9-3.3). The calcimeter of Tsimbal (a modified calcimeter of Scheibler) is proposed for detg. carbonates. In the anal. of metallic Al and of its alloys Si can be detd. in the VAMI photocalorimeter (the colorimeter devised and accepted by the All-Union Sci. Inst. for Research in the Aluminum and Electrode Industry). The metal is first treated with an alk. soln. prepd. from metallic Na. A method for the simultaneous polarog. detn. of Cu and Zn in metallic Al has been developed. The sample is decompd. with NaOH and the Cu and Zn sulfides are dissolved and detd. polarographically. Na is detd. volumetrically by the Mg uranyl acetate method. For analyzing metallic Mg it is recommended to decomp. the NH4Cl sample in the presence of Br. This excludes losses of Si in the form of \*\*\*silanes\*\*\*. For detg. Ca a preliminary sepn. of Mg from Ca is carried out. This method is based on the different solubilities of MgO and CaO in water. Zn is sepd. with H2S and detd. in the form of Zn anthranilate. Good results are also obtained from the polarog. detn. of Cu and Zn in Mg alloys. The modified Stark-Howell method is used in the anal. of F compds. for detg. F. Si can be detd. by oxine in the presence of F. A no. of other detns. is also described.

IT Bauxite  
 (anal. of)  
 IT Aluminates  
 (detn. of)  
 IT Alkalinity  
 Carbonates  
 (detn. of, in Al-Mg industry)  
 IT 7429-90-5, Aluminum 7439-95-4, Magnesium  
 (alloys, anal. of, in industry)  
 IT 7440-38-2, Arsenic 7782-41-4, Fluorine  
 (anal., detn.)  
 IT 7440-23-5, Sodium  
 (anal., detn. in Al)  
 IT 7440-50-8, Copper 7440-66-6, Zinc  
 (anal., detn. in Al and Mg alloys)  
 IT 7440-70-2, Calcium  
 (anal., detn. in Mg)  
 IT 7440-21-3, Silicon  
 (anal., detn. in presence of fluorides, detn. in Al alloys)  
 IT 1313-59-3, Sodium oxide, (Na2O)  
 (detn.)  
 IT 1344-28-1, Alumina  
 (detn. of)  
 IT 1309-37-1, Iron oxide, Fe2O3 7631-86-9, Silica  
 (detn. of, in Al-Mg industry)

=> s triisopropylsilyloxycarbonyl and methylene  
 2 TRIISOPROPYLSILYLOXYCARBONYL  
 121311 METHYLENE  
 823 METHYLENES  
 121805 METHYLENE  
 (METHYLENE OR METHYLENES)  
 L13 0 TRIISOPROPYLSILYLOXYCARBONYL AND METHYLENE



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=> s isopropylsilyloxycarbonyl and methylene
      1 ISOPROPYLSILYLOXYCARBONYL
      121311 METHYLENE
      823 METHYLENES
      121805 METHYLENE
            (METHYLENE OR METHYLENES)
L14      0 ISOPROPYLSILYLOXYCARBONYL AND METHYLENE

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USPAT2  
NEWS 5 JAN 13 IPC 8 searching in IFIPAT, IFIUDb, and IFICDB  
NEWS 6 JAN 13 New IPC 8 SEARCH, DISPLAY, and SELECT enhancements added to  
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NEWS 10 JAN 31 Monthly current-awareness alert (SDI) frequency  
added to TULSA  
NEWS 11 FEB 21 STN AnaVist, Version 1.1, lets you share your STN AnaVist  
visualization results  
NEWS 12 FEB 22 Status of current WO (PCT) information on STN  
NEWS 13 FEB 22 The IPC thesaurus added to additional patent databases on STN  
NEWS 14 FEB 22 Updates in EPFULL; IPC 8 enhancements added  
NEWS 15 FEB 27 New STN AnaVist pricing effective March 1, 2006  
NEWS 16 FEB 28 MEDLINE/LMEDLINE reload improves functionality  
NEWS 17 FEB 28 TOXCENTER reloaded with enhancements  
NEWS 18 FEB 28 REGISTRY/ZREGISTRY enhanced with more experimental spectral  
property data  
NEWS 19 MAR 01 INSPEC reloaded and enhanced  
NEWS 20 MAR 03 Updates in PATDPA; addition of IPC 8 data without attributes  
NEWS 21 MAR 08 X.25 communication option no longer available after June 2006  
NEWS 22 MAR 22 EMBASE is now updated on a daily basis  
  
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SEARCH TIME: 00.00.02

L2 0 SEA SSS FUL L1

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